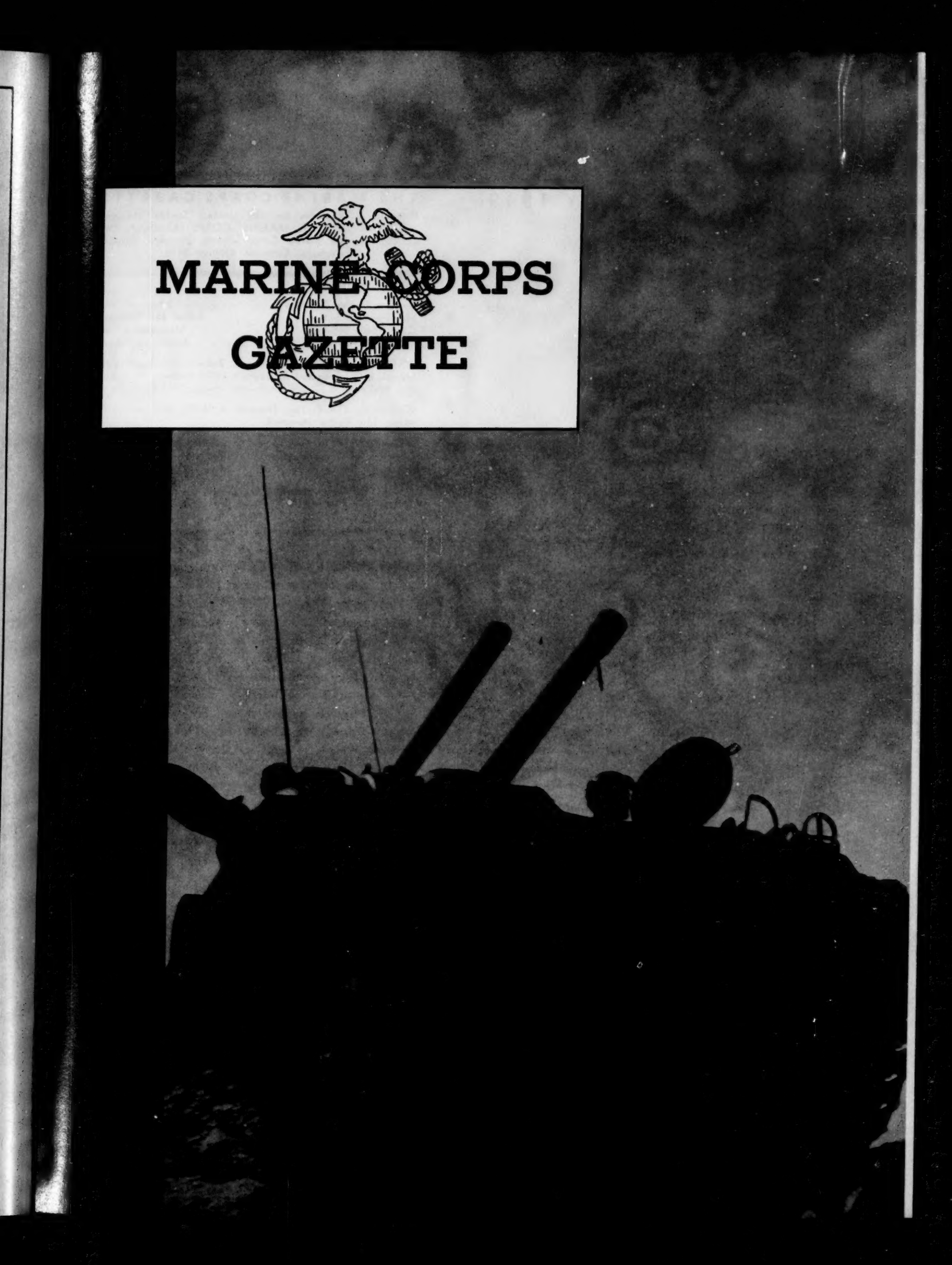
MARINE CORPS GAZETTE



Marine Corps Gazette

MAY 1949

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THIS MONTH'S COVER: When the 2d Marine Division went ashore D-Day morning at Vieques this Spring they found the Aggressor force defending the island had pushed up a surprise for them in the form of beach tank barriers bull-dozed the night before. That the tanks weren't completely stopped is shown by this 2d Tank Battalion flame thrower going literally "over the top." The photograph is by Maj James A. Donovan, Jr, who observed the maneuvers.

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ADVERTISING: Capt Murray Martin, USMCR, 2 West 46th Street, New York 19, N. Y. Phone: LUxemburg 2-1540.

THIS MONTH AND NEXT: Numerous sad experiences have made us reluctant to announce articles scheduled for the future. Too often in the past we have promised something and then had it hang on the horns of the dilemma *security*. With the merger of all the armed forces' public relations into one office we are even less certain than before as to what will and what won't be cleared for publication. However, we are reasonably sure that next month you will read *North China Patrol*, an almost-combat operation described by LtCol Henry Aplington, II, and the equally lively *French Indo-China* by Comdr Alan Villiers who tells about taking his landing craft up the Saigon river in rendering an assist to the French government. Also scheduled is *Gen Rupertus' Improvised Air Force* by Capt Richard M. Hunt—a story of grenade dropping from Piper Cubs over Cape Gloucester.

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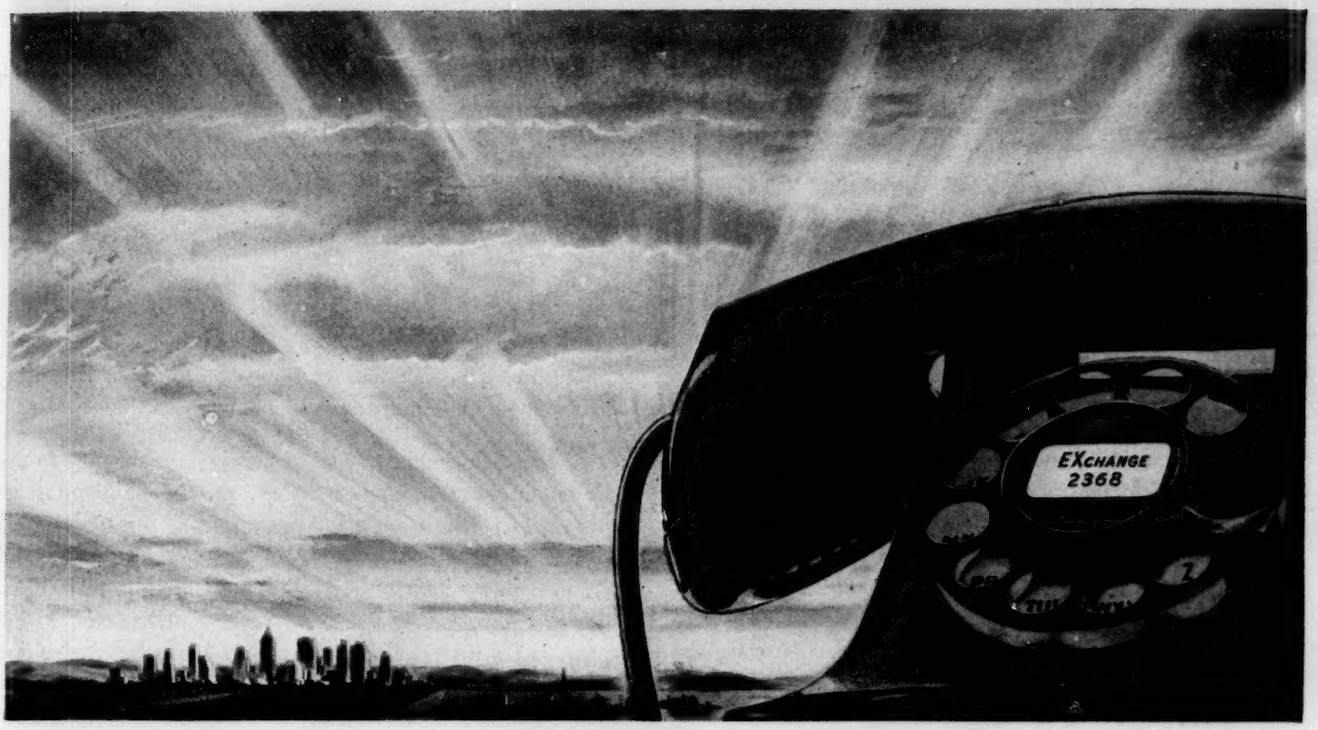

THE FUTURE HOLDS GREAT PROMISE

Neither chance nor mere good fortune has brought this nation the finest telephone service in the world. The service Americans enjoy in such abundance is directly the product of their own imagination, enterprise and common sense.

THE PEOPLE of America have put billions of dollars of their savings into building their telephone system. They have learned more and more ways to use the telephone to advantage, and have continuously encouraged invention and initiative to find new paths toward new horizons.

They have made the rendering of telephone service a public trust; at the same time, they have given the telephone companies, under regulation, the freedom and resources they must have to do their job as well as possible.

In this climate of freedom and responsibility, the Bell System has provided service of steadily increasing value to more and more people. Our policy, often stated, is to give the best possible service at the lowest cost consistent with financial safety and fair treatment of employees. We are organized as we are in order to carry that policy out.

BELL Telephone Laboratories lead the world in improving communication devices and techniques. Western Electric Company provides the Bell operating companies with telephone equipment of the highest quality at reasonable prices, and can always be counted on in emergencies to deliver the goods whenever and wherever needed.

The operating telephone companies and the parent company work together so that improvements in one place may spread quickly to others. Because all units of the System have the same service goals, great benefits flow to the public.

Similarly, the financial good health of the Bell System over a period of many years has been to the advantage of the public no less than the stockholders and employees.

It is equally essential and in the public interest that telephone rates and earnings now and in the future be adequate to continue to pay good wages, protect the billions of dollars of savings invested in the System, and attract the new capital needed to meet the service opportunities and responsibilities ahead.

There is a tremendous amount of work to be done in the near future and the System's technical and human resources to do it have never been better. Our physical equipment is the best in history, though still heavily loaded, and we have many new and improved facilities to incorporate in the plant. Employees are competent and courteous. The long-standing Bell System policy of making promotions from the ranks assures the continuing vigor of the organization.

WITH these assets, with the traditional spirit of service to get the message through, and with confidence that the American people understand the need for maintaining on a sound financial basis the essential public services performed by the Bell System, we look forward to providing a service better and more valuable in the future than at any time in the past. We pledge our utmost efforts to that end.

Leroy A. Wilson
President
AMERICAN TELEPHONE AND TELEGRAPH COMPANY

TO THE EDITOR

Message Center

Equipment Being Tested . . .

DEAR SIR:

At this date, I have naturally read only two of the installments of Lt Schwaneke's excellent article on the *"New Look" for Individual Equipment,* but he seems to be putting out with the unadulterated word. It is obvious that a great deal of sincere research and work has gone into the formulation of the article. Now what happens? Has he stirred up a tempest in a teapot among people who might consider him a disgruntled aviator who can't take care of himself on the ground? Maybe the growls come from that small group that feels that the equipment in question was satisfactory during the war, and that it is still O.K. Undoubtedly, you will receive many letters praising the article, and others offering suggestions to the Lieutenant as to how he can better use the present equipment, *but,* will anything be done? Has the article been referred to the Equipment Board, or the Supply Department, or wherever the reference should be made? I've come to the hazardous conclusion that possibly the "walking marines" have heard the same complaints about the equipment so often, that they have come to accept them as part of the game. That might be why a "flyboy" who uses the equipment only once or twice a year sat down to seek a solution.

Having suffered the same experiences as Lt Schwaneke, it would be a source of personal pleasure and pride to know that the Corps follows up a lead such as this. If the Lt's ideas prove practical, and they certainly seem to be, the new style equipment would be a boost both to morale, and the military efficiency of an organization.

J. C. HARRINGTON
1stLt, USMC

P.S. Just received the February issue of the GAZETTE today. Three cheers and a tiger for Lt Schwaneke. If the Corps isn't careful, he is liable to change those gosh-awful looking dungarees into a uniform, natty as well as practical.

ED: Lt Schwaneke's suggestions went as a report to the Commandant last August. Prior to the publication of his series in the GAZETTE, six samples of his redesigned pack and sleeping shelter were ordered fabricated and shipped to the Marine Corps Equipment Board at Quantico for testing. At the same time, a description of his proposed utility clothing was also sent to the Board for consideration in connection with a previously assigned project aimed at the improvement of the standard-issue utility coat and trousers. Lt Schwaneke was ordered to Quantico on temporary duty for consultation relative to the testing of these items. Headquarters, Marine Corps, does not wish to make any official comment on the proposed articles until the Marine Corps Equipment Board reports the results of its testing. Headquarters does point out, however, that the "string-belted, bellows-pocketed dungarees," which Lt Schwaneke refers to, are apparently the limited standard modified utility clothes. The now standard utilities do not have the bellows pockets.

More on the Same . . .

DEAR SIR:

I have been much interested in the recent articles by Lt Schwaneke and the letters by other officers on the subjects of uniforms and individual equipment. Having been associated with the development and adoption of some of that clothing and equipment during a brief tour in the G-4 Section, Division of Plans and Policies, during the war, I'd like to bring to light a few reasons why some of our gear is far short of the ideal. Most of the ideas which present-day critics advance are not new. They were present five years ago in both the recommendations and the "reasons for nonconcurrences" attached to various studies on developments in this field.

First. During the war, economy of material and labor were of prime importance. Any additional step in manufacture that did not contribute to functional value was usually eliminated. Hence, the "prison-garb" utility suit without shoulder straps or any really "military uniform" features. Pockets of the trousers were designed so as to permit a man to *crawl* in relative comfort and ease instead of having grenades, C-rations, and cigarette lighter digging into his thighs. That "satchel pocket" on the seat of your pants proved to be more trouble

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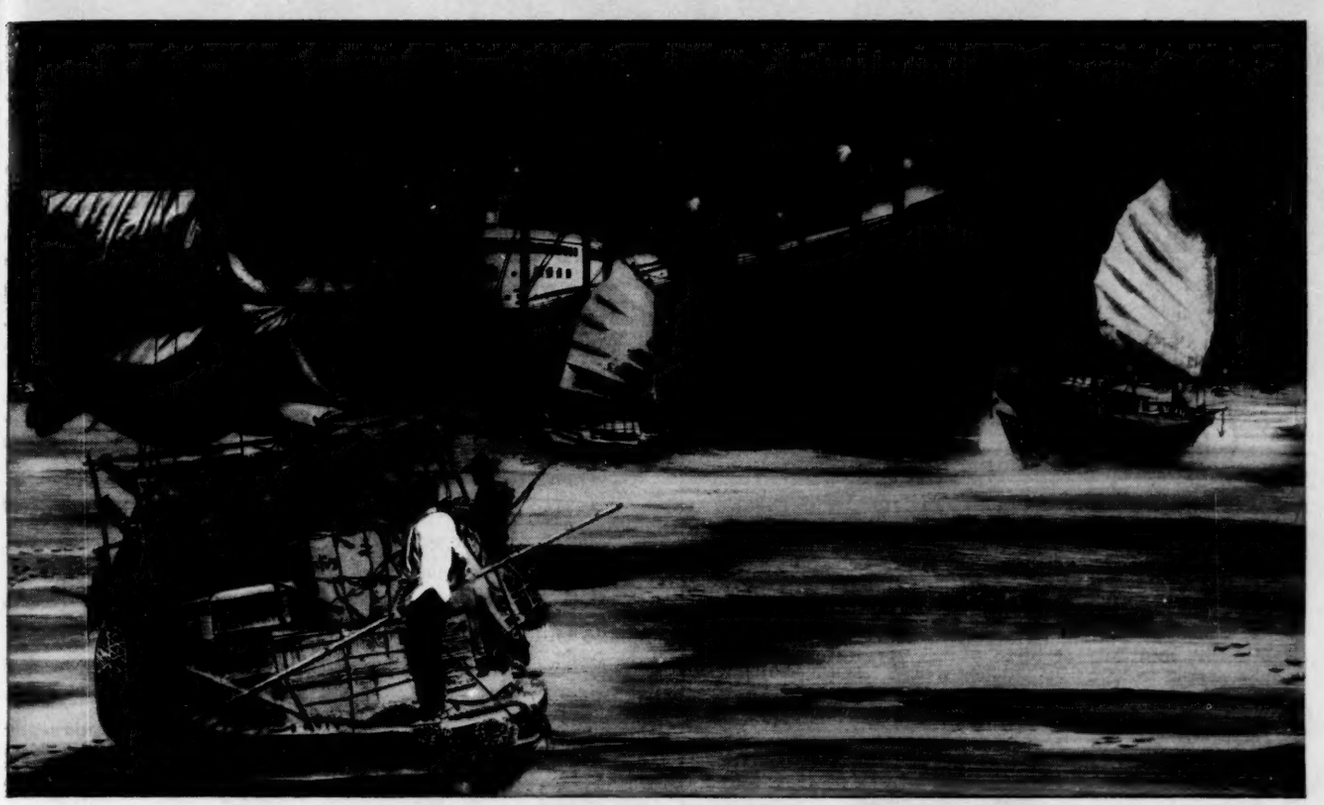
Each month the GAZETTE pays five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Correspondents are asked to keep their communications limited to 200 words or less. Signatures will be withheld if requested; however, the GAZETTE requires that the name and address of the sender accompany the letter as an evidence of good faith.



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Message Center

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than it was worth, but at least for parachutists who often carried a poncho there when making a jump it was okay. It made a comfortable contact point when coming in for a backward landing. It should be pointed out that this type of trousers is "limited standard" and will be replaced by a garment with conventional pockets when the present stock is exhausted.

The length of the coat and the peculiar location of the pockets on it are because it was designed for wear under a cartridge belt and suspenders. A short coat would bunch up under the belt if worn outside the trousers—tests proved that. In addition, ordinary pockets couldn't be reached when suspenders were attached to the belt. The "high-pockets" coat is also on the way out.

Those extra "flies" in coat and trousers and the draw-string bottoms? We expected the Japs to use gas as a last resort in the invasion of Japan, and all utility clothing was made ready for impregnation as "protective" clothing.

The pack? Well, certainly not the best in the world, but the M1944 pack adopted by the Army was based on the Marine Corps design which, for simplicity in manufacture, ease of adjustment, flexibility in use and durability—*when properly used,* made it tops over a variety of other designs.

The boot and shoe-legging controversy. Ah! There is one for the book! In 1944 extensive tests were made by the Equipment Board, using troops at Quantico over a period of nearly six months. They tested Marine field shoes with five different types of legging including the British gaiter; they tested the Army combat boot, and a Marine Corps version of the same (using our shoe-last); also the Marine Corps parachute boot. The final vote of the men on general acceptability—leaving out cost and ease of manufacture as of secondary importance this time—was for the Marine parachute boot. So—the parachute boot was adopted as standard foot gear for field troops—and it or a similar boot will be produced and issued if we ever get through the enormous stock of field shoes we have in the depots now. A joker arising here is the fact that in order to maintain balanced stocks it has been necessary to manufacture *more* shoes in certain sizes.

The utility cap. It was designed immediately after the Bougainville campaign as a cap for wear on patrol in place of the helmet or helmet liner. (They restricted both vision and hearing in the jungle.) Not very good looking, but simple and easy to manufacture, and we wanted 400,000 of them right away and thousands more after that. Its use nowadays for drill and even parades brings a shudder to anyone who had a hand in its initial design. Let's send it back to the boondocks and to the Motor Transport work-shop from whence it came.

Second. The "miracle of American industry" was definitely reaching a "down-to-earth" attitude in 1944 and '45. New ideas were not translated into shining actuality in a few weeks

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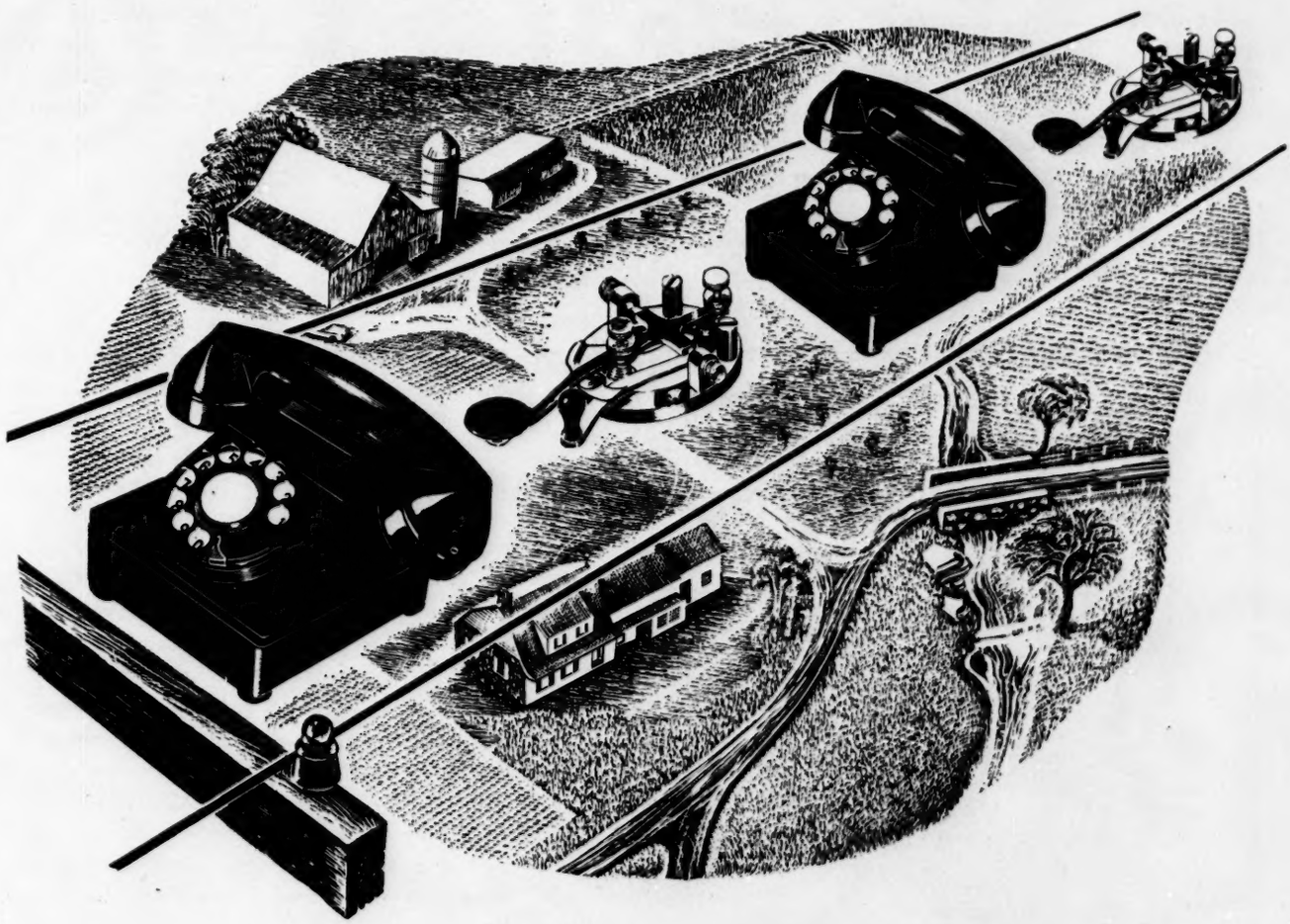
MORE MESSAGES . . . without more wires

Federal Carrier Systems "Multiply" Telephone and Telegraph Channels—Electronically—Over Existing Lines

Without raising new poles or stringing new wire, here's how telephone operating companies, railroads, pipelines, public utilities and other enterprises are expanding their communication systems. Compact, economical "carrier" equipment makes it possible to send and receive more than one telephone conversation or telegraph message, or a combination of both, over the same pair of wires at the same time. Federal Telephone and Radio Corporation—I T & T's manufacturing associate in the United States—offers a complete line of dependable telephone and telegraph carrier systems . . . to solve present day expansion problems in communications.



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Message Center

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anymore. There was too much competition for raw materials and the machines to produce. It required an average of nine months for the simple Marine Corps utility knife to progress from a hand made model to a mass produced job that reached the field about the time Japan surrendered.

It was months before we dared to add grommets to the poncho because the additional steps in manufacture would delay certain shipments and produce a shortage in the field about the time of the expected campaign in Kyushu.

The tents could have been improved a lot too, but there was a steady flow of usable if not perfect design coming out of the factories. Besides, the Army's requirements had suddenly trebled in 1944, and the machines and labor could not be slowed down to permit a change-over. An error in planning? Well, perhaps. The British announced that lumber originally promised U. S. Army cantonments in England was needed for civilian housing. The V-1 and V-2 were demolishing British homes a square block at a time. So—we took the shelter tents and the pyramidals "as is."

Third. In 1944 and early '45 we were preparing for two more years of war and a 585,000-man Marine Corps. The Jap fold-up left the Marine Corps with tremendous stocks of clothing and equipment. Much of it has been disposed of as surplus, but many years' supply still remain in the depots—gear that is not what we would *like* to have, but usable and *on hand*. To replace it with slightly superior equipment would cost twice as much, item for item.

Fourth. Those little extra items such as pneumatic mattresses, pack-boards, inflatable pillows, extra straps, etc., are all fine when you aren't going far or can throw your stuff on a jeep. But did you ever walk through a camp-site just after an outfit rolled up its gear and embarked for the forward area? Neatly stacked (or more probably damnwellscattered) will be truck loads of those little extras. And when that outfit hits the beach, it will lighten its packs by another 30 per cent.

So, in conclusion, let me add this—let's all keep the ideas rolling out—and send them in to Headquarters where they can be given official consideration. But don't be too indignant if an obviously needed improvement or any entirely new item is not adopted at once. It may only go into a file right now—but when the time comes that improvements *can* be made effective, your idea may very well find its place in a better uniform, a lighter and more comfortable pack, or a bedding roll that can match the innerspring mattress.

ROBERT T. VANCE
LtCol, USMC.

Not a Land Army . . .

DEAR SIR:

I am in complete agreement with what seemed to me the main theme of Capt Greene's fine article *Little Dynamite* in the March issue—that we must consider all alternatives in planning the future amphibious attack. And his point that the infantryman should be given as much "dynamite" of his own as it is possible to give him is, I think, a sound one.

But if he meant literally "the recoilless artillery piece can hit as hard as a tank or SP gun," I think he must have had erroneous data. The modern tank gun has a velocity about three times that of the recoilless, the SP about double. Now, for the same weight of projectile, the former will *hit* nine times as hard . . . the latter four times as hard . . . as the recoilless.

Yes, the recoilless can "go up front without drawing down everything the enemy can throw." But how much fire is it going to draw as soon as it fires its first round?

I like Capt Greene's points that we should re-evaluate the LVT(A), and should place observers for supporting arms in tanks and carriers. Supporting arms are only as effective as their control.

But just how valuable is the quality of *elusiveness* in the beach assault? Regardless of the amount of "dynamite" he carries, I think the infantryman alone is going to "sift" across the beach only until he hits (or is hit by) something big. I don't think you can hide from the enemy in the landing assault. He will find you in short order . . . but you must find him even faster. And *then* you must have what it takes to fight and defeat him—with certainty and speed.

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Is armor really such a profitable target for hostile artillery? Airbursts and near-hits are ineffective against the armored weapon. I think we can ponder the effectiveness of hostile artillery against our unarmored weapons . . . with far greater profit.

I don't think that we would be "duplicating a land army" should we employ a mechanized landing force any more than in employing an "infantry division type" landing force. Actually, there is no duplication in either case, for the landing force is specially trained and equipped for amphibious combat; and there would be as much, or more, amphibious specialization required for a mechanized landing force as a "foot" landing force. Both are amphibious and not land warfare—and both are equally *within the Marine Corps sphere of responsibility*. The composition of the landing force must be that which will provide the greatest certainty of accomplishing the amphibious mission. That is the one and only *valid* consideration.

A. J. Stuart
LtCol, USMC

Additional Claims . . .

Dear Sir:

To bring our article *Antarctica—International Grab Bag* up to date, please make the following changes in the table of claims:

SOVIET UNION:
Claim: Right to entire continent (Issued on 12Feb49 at Moscow by the All Union Geographic Society)
Basis of Claim: Discovery (By Fabian Bellinghausen in 1819)

CHILE:
Most Recent Visit: Naval Task Force 1948-9, three ships, LtComdr L. Fontaine commanding, for scientific research and reaffirmation of claims.

Note that in the article's table there are some blank spaces. The missing information was not offered by the consuls of the nations concerned at the time this article was prepared.

Harries-Clichy Peterson
2dLt, USMCR

Convert . . .

Dear Sir:

In my article, *The Basic School*, in the January issue, it was noted that of a group of 60 recent graduates of The Basic School one officer expressed himself as having only half-hearted faith in the Marine Corps in peace time. While this was considered a pretty good batting average, still it was disturbing to have even one officer graduate whose faith in the Marine Corps was only half-hearted.

I am happy that the element of doubt felt by the officer concerned has now been removed as attested by the following extracts from a letter just received from him:

"This evening I was fortunate enough to receive a copy of the January issue of the Marine Corps Gazette. Needless to say, the first article to catch my eye was yours on The Basic School. Not as a second lieutenant to a colonel, but as one marine to another marine, sir, I want to thank you for that very fine article.

"Now, Colonel, you are probably wondering why a "boot" lieutenant like myself would have so much interest in this article that he would sit down and write you about it. Well, sir, on page 24, in the paragraph that finishes just under your picture, you say that: 'All but one stated that they had a sincere faith in the Marine Corps. The one exception expressed himself as having only half-hearted faith in peacetime but sincere faith in wartime.' If I remember correctly, Colonel, I am that one.

"Why did I express myself so? Because, Colonel, I was, as a new lieutenant in The Basic School, extremely bitter and disappointed with the fact that such a highly-famous organization would have such poor, hopelessly inadequate, or total lack thereof, facilities for its married officers, and especially in Quantico, which many of my brother officers assured me was by far the best post in the Corps.

"I really could not quite picture my wife and I, (and our future little ones, the first of which will arrive in March), spending 20-30 years living in hovels as we did in a backroom atop and to the rear of _____ Cafe on Potomac Avenue. When I filled out the form mentioned in your article, I was a "DDL" in the PLC program, and while I enjoyed the work by day, the living facilities, especially on hot nights, were not conducive to fostering a supreme love for the organization which should be, I feel, directly responsible *in peace time*, for supplying adequate quarters for its married officers. Now, sir, I do *not* mean this as an excuse for my filling out the questionnaire in the manner I did; I mean that I honestly knew so little about the Corps and its members that a small part of it, which is not actually the complete fault of the Corps itself, really disturbed me to such an extent as to make me almost indifferent about furthering my career in the Corps.

"Why did I enter the Corps in the first place? Because, after 40 months as an enlisted man in the _____ during the war, I knew that that branch of the service was not for me; secondly, *every single one* of my childhood buddies and college classmates who had served in the Corps during the war claimed that they all liked it, without exception! Well, this completely snowed me, Colonel, because I knew so many who griped about their service days, but these former marines all claimed that they loved it!

"And, sir, now that I've left Quantico and picked up my own rifle platoon on Guam, spent five or six weeks there, shoved off for _____, well, I'd like to confess that I'm the one lost sheep, like in the Bible—the other 99 per cent of my TBS class were smart enough to see it immediately. With me, it took time and having my own command, to see that I was completely wrong about having only a half-hearted faith in the peacetime Corps. Why?—because the marines I have here, who are just 'average' marines, are so far superior to (other services observed elsewhere)—that I honestly can't wait to get back and see my boys in green standing post outside the gates.

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Message Center

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"I really can't explain it, Colonel, but these kids have 'got it,' and I actually was terribly ashamed of myself when I read your article and knew that the section I quoted probably referred to me, if I remember correctly, and that I could have been so unindoctrinated in the ways of the Corps—well, Colonel, I just want to put it down in black and white, here and now, that actually being a part of the Corps is a wonderful experience, as you've known for many years, and if you have any more *wrong cases* like me in your present class, tell them to drop me a line and I'll gladly square them away."

"Well, sorry to take so much of your time, Colonel, but I just had to get this off my chest."

E. W. Snedeker
Colonel, USMC

Enlisted Training Program . . .

Dear Sir:

The post-war period has witnessed an unprecedented stress on peacetime training in the Marine Corps. As the commanding officer's responsibility in carrying out training programs is not only one of his most important jobs, but often one of his toughest, it follows that any way to assist him in this work should be carefully studied. Along this line a training outline and lesson plan, prepared by higher headquarters for all subjects required in current training directives, would not only be of great assistance to the commander but also would help standardize instruction throughout the Corps.

The lesson plan and outline of instruction would be an excellent way to brief an instructor for a subject and relieve the commander of a certain amount of routine work. This would be especially helpful in small units where instructors are limited as to ability and number. The type of lesson plan and outline of instruction could be very similar to the ones now used at the Marine Corps Schools, Quantico.

With the lesson plans and outline of instruction, plus notes taken in his conference with the Commanding Officer, the instructor would be off to a good start in the preparing of his lecture. The adoption of such a policy would offer the following advantages:

1. Place training of all Marine Corps units on a more uniform basis.

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—No Agents Will Call On You—

2. Raise the level of instruction throughout the Marine Corps.

3. Assist the commander, especially in non-FMF units, in the carrying out of his training program more efficiently.

4. Assist instructors in the preparation of their subjects.

5. Make use of the plans and outlines of instruction available at the Marine Corps Schools, which in many cases would require only minor changes or additions.

6. Give the enlisted man an outline of study for use in preparation for promotion exams.

C. L. Banks
LtCol, USMC

Ed: Marine Corps General Order No. 10, dated 1 February 1949, should satisfy some of Col Banks' requirements.

MCI for Boots . . .

Dear Sir:

Re *Career Management for Enlisted Marines* in the January issue, may a boot with slightly under eight years in service make a few comments?

There seem to be more high school non-graduates entering the Marine Corps now, than before the war. Their mental calibre may not be low, but they do need further education. In the field, this lack or limit of education is a hindrance.

The MCI provides a remedy—a means to improve education. My opinion is that few who are fresh out of boot camp use this facility. (I may be wrong). Why? Because of two reasons, namely:

1. They are not too well aware of the ease of taking a course.

2. They are sent to a school where they may not incur the additional responsibility of attempting to learn more than the school's curriculum is intended to teach them while attending that school.

I concur with the authors' idea of sending men from boot camp to the FMF. But, modify that a little. Please don't send them to an aviation unit, and don't send them overseas. In both places, much regard is lost for the discipline instilled in the former recruit. I'd rather see him in a guard detachment, where he will be an exemplary marine; instead of in an aviation unit or overseas unit where he soon becomes a "salt"—or so he thinks. These salts too often get off on the wrong foot, injuring themselves; and, they, more often than not, are the ones who drag down our tradition, when they make public spectacles of themselves while on liberty.

Lastly, a man in the FMF or in a guard detachment *does* have time to study MCI lessons. If he starts a course reasonably soon after completing recruit training, he is more apt to benefit by same. But with a lapse of time, it becomes more difficult for the man to settle himself down to study, especially on his own initiative.

Tech Sergeant

BG SPARK PLUGS . . . SERVING
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AVIATION SPARK PLUGS

OPERATION SNOW

By LtCol Warren E. Sweetser, Jr.

IN THE NICARAGUAN CAMPAIGN OF 1927, MISSOURI mules operating with troops in the remote interior were supplied with air-lifted hay and oats when it was found they could not subsist on local forage. This winter, in the West, history repeated itself and Marine aviators found themselves once again air-delivering live stock feed.

For the Marines at El Toro, the operation commenced on 31 January and was completed on 9 February. On the evening of 31 January, a Marine Aircraft Group 33 R4D-6, piloted by 1stLt H. E. Mendenhall, departed for the Phoenix Sky Harbor Airport, on one hour's notice. He was followed early the next morning by Maj Grant W. McCombs in a station R4D. They took loads of hay out of Sky Harbor that day, and operations thereafter were conducted from the Naval Air Facility, Litchfield Park, Arizona, about twenty miles west of Phoenix, Even though the field is not equipped for night flying, flare pots were placed along the runway, and night landings and take-offs were made. Four R5Ds from VMR-152 arrived at Litchfield on the evening of the 1st, along with extra crews for the two R4Ds. Operations got underway in earnest on the morning of the 2nd, with the R5Ds making two trips a day out of Litchfield, each carrying seven tons of hay on each trip. The R4Ds with about two and one-half tons per trip made from two to

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LtCol Warren E. Sweetser, Jr, is at present the executive officer of MAG 33 at El Toro. He is a veteran of 20 years in Marine Aviation.

During the West's coldest winter on record, the Marine Corps went to the rescue of isolated Indian ranches, dropping alfalfa and hay to the starving herds in an operation which evoked memories of similar air-drops in Nicaragua in 1927

four hauls a day, reloading after the first trip at Winslow, Arizona. The alfalfa was baled in two sizes, one of 70 pounds to the bale, and one of 120 pounds; consequently, the number of bales carried on each trip varied.

Operations continued without interruption except on the afternoon of the 5th, when severe turbulence over the northern plateaus caused cancellation of the last flight of the day, and the morning of the eighth, when low ceilings and snowstorms kept the planes from getting to the drop area until late morning. Daily operations began at 0600, when pilots and crews reported for briefing, assignment to their drop areas, and assignment of guides, the latter either Navajo Indians or ranchers.

The entire northern part of Arizona and areas in Southern Utah, (a total of 15,962,386 acres, practically all of which is Navajo and Hopi Indian Reservations) were covered in the haylift. The Federal Works Agency, Phoenix, acted as coordinator of all relief operations, military and civil, ground and air. Areas and tonnages were assigned each day. Pilots transposed their drop areas and routes of flight onto their maps from a gridded map in the operations room. This system worked extremely well.

The hay-handlers had to stand in the back end of the plane with the door off, throwing out bales of hay in below freezing temperatures. The loose hay made the decks of the planes very slippery and for safety's sake, each handler was tied to the aircraft in such a manner that he could not get closer than two feet to the open door.

The first day of operations resulted in some bent and damaged stabilizers. Three bales of hay piled one on top of another was found to be poor procedure. The top bale would usually bounce off the top of the stabilizer, the middle bale would hit the stabilizer hard on, and the bottom one would go underneath. From then on, only one bale at a time was thrown out.

Sixteen planes were employed in the operation. Navy pilots flew eight R4Ds and two R5Ds, and the El Toro marines flew the remaining two R4Ds and four R5Ds.

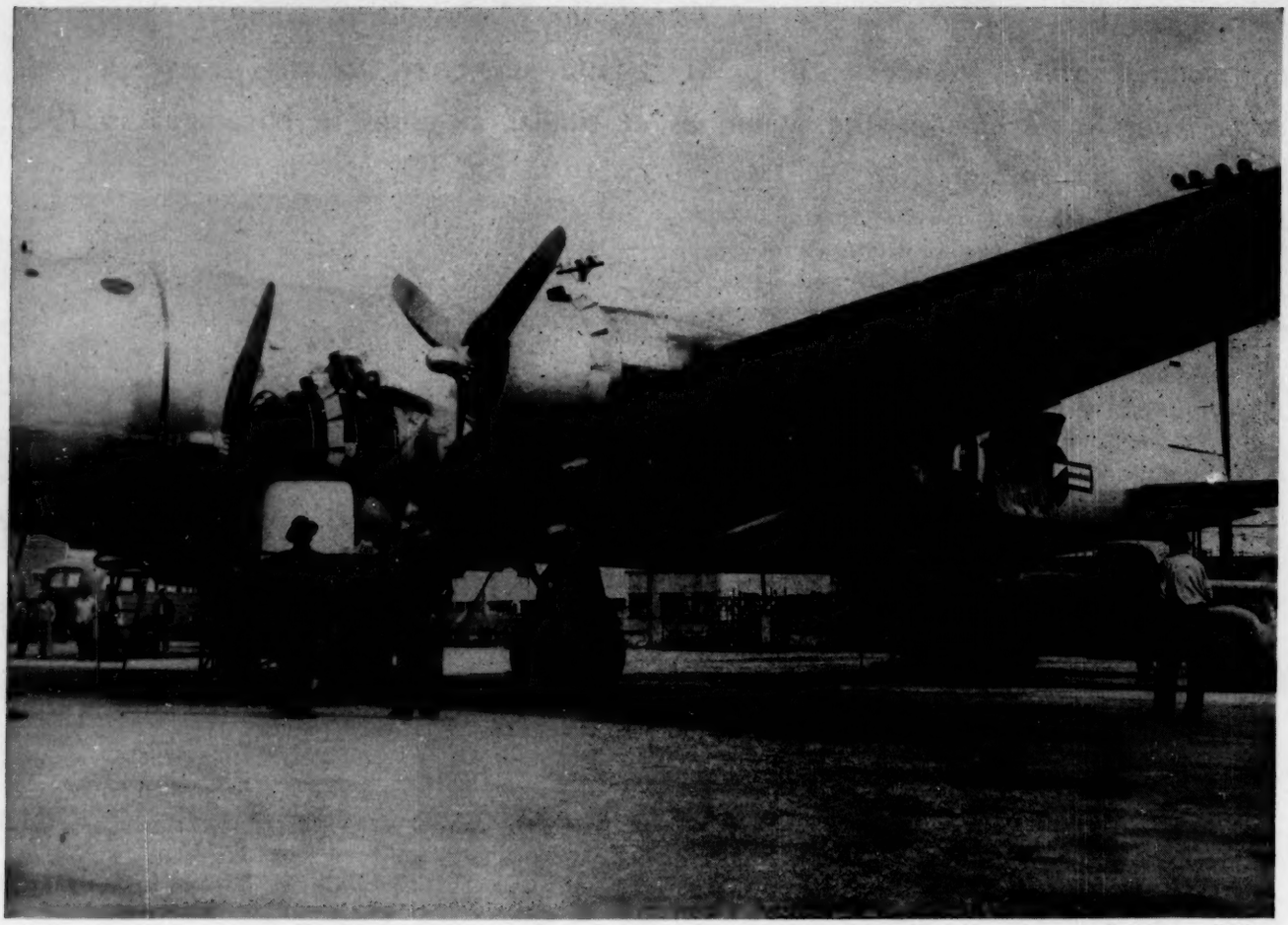
A resume of the number of flights, hours in the air, and poundage dropped by the two R4Ds and four R5Ds of the El Toro planes is as follows:

	No. Flights	*Hours*	*Pounds Delivered*
R4Ds	45	117.1	225,000
R5Ds	51	182.4	714,000
Totals	96	299.5	939,000

Maj McCombs, LtCol Sweetser, BrigGen Sanderson, and Comdr Lewis took prominent parts in mercy missions.

Santa Ana Register

Municipal airport, Winslow, Arizona, was advance base for Navy and Marine transports flying hay to cattle.



Santa Ana Register

Emergency repairs to this "Skymaster" were performed even while the fuselage was stuffed with hay. Planes carried seven tons at a time, and made as many as three round trips daily to stricken area.

Flying a "Snowbound" Mission

IN THE VERY EARLY DAWN of February 8th, Lts H. E. Mendenhall and Rupert C. Wesley lifted their "workhorse of the airways," a venerable R4D-6, from the flarepot lighted runway at the Naval Air Facility, Litchfield Park, Arizona. Between them stood Tim Yazzie, a full blooded Navajo and a graduate of the Indian School near Riverside, California, Class of '24. Behind them, stacked nearly to the roof of the cabin, were 70 bales of alfalfa.

Target area for the crew was marked on the map 230 air line miles north by north-east. Black Mesa is divided by a shallow valley, Oraibi Wash, and in this area the Navajos would be waiting, immobile, helpless, with their starving bands of sheep and horses.

The 5,000 pounds of hay were flown up over Mogollon Plateau at 11,000 feet, 500 feet above a solid overcast. The weather cleared shortly after passing Winslow, and a gradual let down to the drop area commenced. In another twenty minutes, the first signal was seen.

How the sharp-eyed Navajos could see the R4D at a distance of over twenty miles is a mystery, but after the first flash of light was seen from the edge of distant Black Mesa, other mirrors from further on began to bombard the cockpit.

Nosing the plane over, the pilot headed for the closest flashing mirror. MSgt Carl Wood, the crew chief, moved to the rear of the plane to help the other three members of the crew push the bales out. The edge of the mesa was close now, rough brown rimrock topped with scrubby junipers. Tim Yazzie spotted the almost-concealed hogans

Waiting to be flown to beleaguered Indian flocks in Arizona, New Mexico, and Utah, hundred of bales of hay are stacked on the field at Naval Facility, Litchfield Park, Arizona. Civilian laborers helped.

first and pointed them out. The Indian with the mirror was standing on a point of rock some yards distant from the igloo-like adobe mud hogan which was his home.

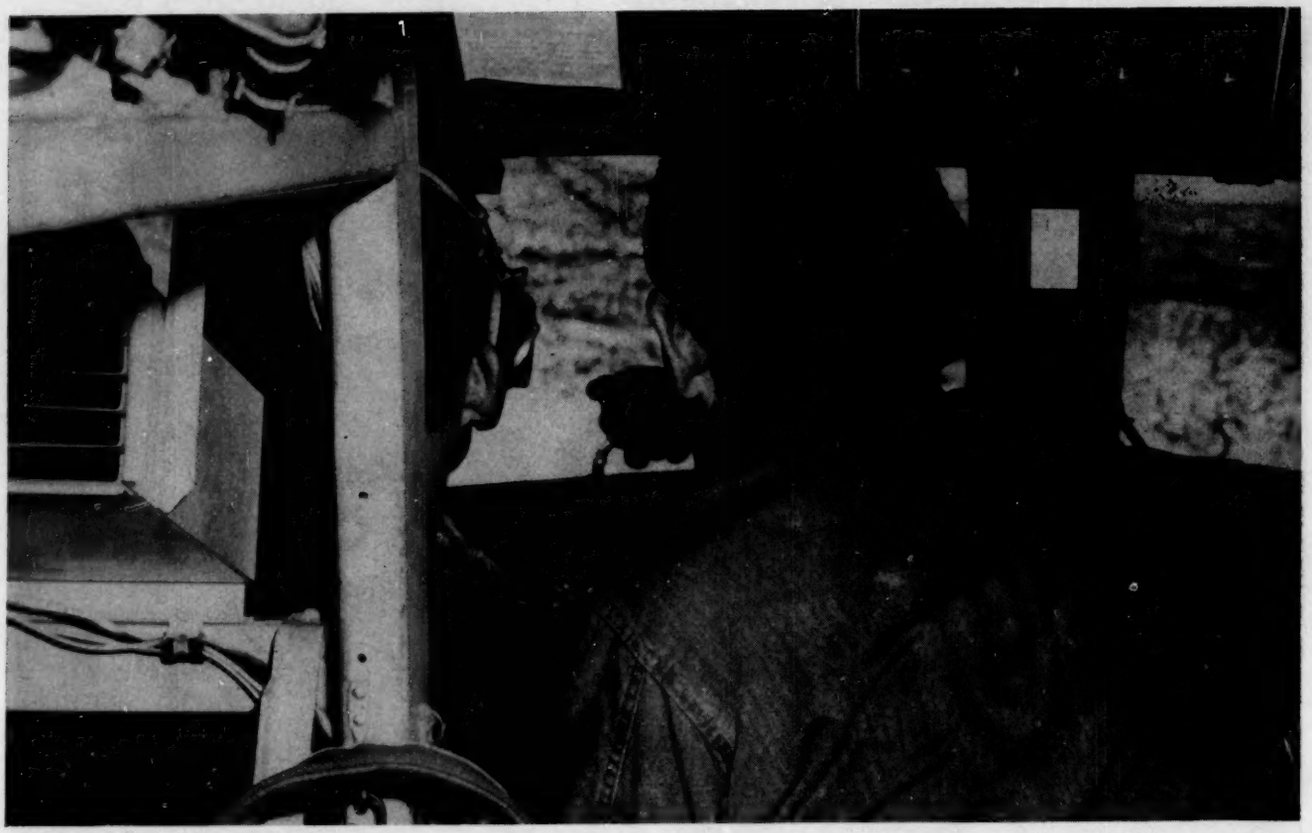
"Standby with five," said Wesley over the intercommunication system to the crew standing ready by the cargo door in the rear of the plane. Then "Drop!" and you could feel the bales going over the side. The Navajos, typically stoical, broke tradition by waving blankets, hats, anything that came to hand. (Several times drops were not made for fear of hitting Indians or livestock.)

Mendenhall pulled up to miss some buttes that were rushing towards the nose. That drop had been made at 100 mph, at less than fifty feet above the mesa. (Anytime you want a thrill, try riding a big transport that is making like a strafing fighter—slipping over saddles and through narrow canyons below the level of the mesa. All this with the altimeter reading anywhere between 6,000 and 8,000 feet!)

The Navajos and Hopis in this rugged, arid, broken country have to live apart from each other, and move constantly in order to provide their sheep and cattle with forage from the poor range. In seeking them out, many miles were traversed to provide help to a few. Without the aid of their flashing mirrors and waving blankets, the job would have been even more difficult. Sheep were particularly hard to see against the snow, and everywhere there was snow, deep and drifted. In many areas there were crazy patterns traced by animals, lost, circling, and backtracking in a hopeful search for anything above the level of the snow which could be eaten. An occasional red spot appeared on the snow, a sign that coyotes or mountain lions had claimed the life of some hapless lamb.

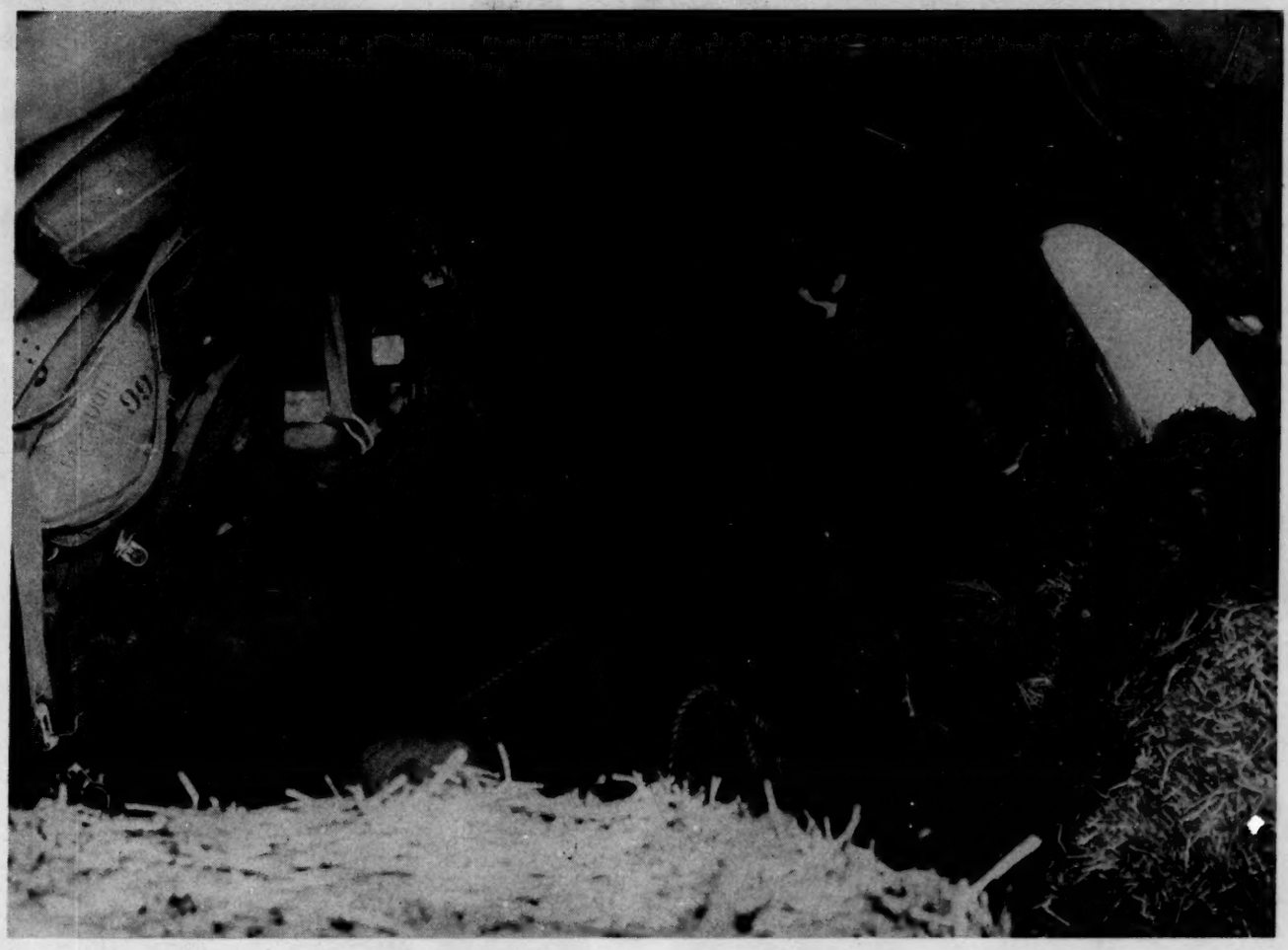
BETWEEN flashing mirrors and waving blankets, an isolated herd was treated. At 50 feet, pin-point accuracy is possible and the bales did not generally break open, hence their force was a problem to be reckoned with. Tim Yazzie pointed out one target after another, offering expert advice on how many bales should be allotted each one.

Here was a herd of horses being tended by a lone rider with no mirror, but the guide's keen eyes searched



Above: Tim Yazzie, full-blooded Navajo acting as a guide, spotted the almost concealed hogans first and pointed them out. Indians signaled with mirrors.

Below: Their mud and stick hogans snowed in, the isolated Navajos depended on the airlift for survival. When an Indian loses his livestock he is bankrupt.



Biting cold required heavy gear to be worn during "Operation Snowbound." Vittles for sheep were pushed through open hatch by marines. Lines kept hay handlers from tumbling out of plane with bales.

him out and the drop was made. Horses eat much more hay than sheep and without horses, the Navajos are helpless. Swinging around for another approach it was noted that the herder had already set each bale on end in order that it could be more easily found in the event of more snow before the hay was consumed.

Here and there county road crews were observed bulldozing, ploughing, and scraping roadways, but having rough going. No drops were made to animals or hogans which could be supplied by road. Each situation was judged as accurately as possible, and proper allotment made according to needs. (Everywhere the Indians appeared grateful. Historically a proud, dignified people who refer to themselves as "Dineh," The People, they turned out enmasse from their hogans to acknowledge the R4D air mail special delivery bundles of hay.)

Dropping over the north rim of Black Mesa, the last few bales were pitched out to a herd of sheep. The load was delivered. Tim Yazzie moved back from the cockpit, the men closed the cargo door, and untied the ropes which had held them in the plane while they pushed out the hay. The smoking lamp was lit and everyone relaxed. The trusty, albeit aged R4D droned back towards Winslow and another mission.

THIS WAS A MISSION typical of an operation which is not to be confused with the Army operation, also called "Snowbound," which was carried out by ground units in the Midwest and Northern Central states; nor with the Air Force's "Operation Haylift" which covered Nevada, northern Utah, and parts of Wyoming. In the Navy-Marine effort, a total of 15,962,386 acres was involved. Gridding a map of the area proved a very effective method of target designation. On their return, pilots indicated where they made their drops on mimeographed maps which formed part of their "strike reports." This eliminated duplication of effort and assured more complete coverage of the area.

The Navy planes involved were flown in to Phoenix from San Diego, Inyokern, Los Alamitos, Point Mugu, and Moffet Field. Naval Reserve officers manned the planes from Los Alamitos. USMC

WW II Raider. New subs with superior range, increased depth diving, greater resistance to depth bombs, and better torpedoes are even more important to navies.

Sea Power in a Changing World

By Dr William E. Livezey

THE EFFECTS OF MODERN TECHNOLOGY UPON SEA power are frequently discussed from the viewpoint of how technological advances affect military sea power in action (See Part I of this article). This approach is desirable and essential, but in and by itself it is inadequate. Sea power is more inclusive than naval power and the ramifications of the age of science on sea power obviously go further than how naval strategy and tactics are influenced.

Science with its discoveries and inventions affects not only the means or manner in which sea power seeks to perform her functions, but also, by intimately influencing national civil and military power potential, affects the comparative ratio both among sea powers and between sea power and land power.

An adequate evaluation of the effects of modern technology upon sea power necessitates a clear understanding of the scope and meaning of sea power. In the first place, sea power is not synonymous with naval power—despite much loose thought and careless writing to the contrary. Sea power is the sum total of factors and forces, tools and geographical circumstances which function in peace time for the protection and enhancement of one's own interests on the sea, and which operate in war to gain the command of the sea, to secure its use for oneself and to deny that use to the enemy. Naval power as seen in the balanced fleet composed of landing forces and air, surface, and sub-surface crafts is the means for the forceful application of sea power. Naval power, therefore, is only the military component in sea power.

But just as surely as sea power is not to be equated with naval power, neither is sea power to be confused with total power. Sea power is not all-embracing; it is only one aspect of total power. Consequently, the total power equation must be always kept in mind in any true appraisal of the repercussions of modern technology upon sea power. Attention must be given to how technical advances influence not only sea power but other components of national power as well. And furthermore, it must be clearly seen that these influences have a bearing, an effect, both relatively within a state and comparatively with other states.

PART II: CONCLUSION

Technological developments in propulsion, ordnance, armor, and weapons affect the comparative standing among sea powers in a two-fold manner: effect upon the capacity of nations to produce the new tools and effect upon the status of the powers by their use of the new tools. Since some indication has already been made (in Part I of this article) as to whether the new instruments favorably or unfavorably affect the superior fleet, emphasis will now be given to the effects of the innovations upon the production capacity of the state. Raw materials and industrial development are important; the impact of the industrial revolution is most significant. The extraordinary growth of ocean commerce in the past century and a half influenced sea power from the overall point of view more than the nineteenth-twentieth century revolution in naval architecture and armament. Nowhere are the repercussions of these innovations more strikingly seen than in Great Britain, the mistress of the seas in the past century.

When steam first replaced sail, the possession of coal became vastly more important. Great Britain profited tremendously by this technological development. Great Britain was the great coal country of the world; she both mined and exported more coal than any other power, and until 1880, she produced more coal than the rest of the world combined. Furthermore, in the sail age, she had acquired many bases in many parts of the globe, often most strategically located, which now served as essential coaling stations.

However, the shift from coal to oil did not equally redound to British advantage. Of course her bases still served her well; but when this shift in fuel came on the eve of World War I (the *Queen Elizabeth* completed in 1915 was the first battleship to use oil exclusively), Great Britain found herself controlling only 2 per cent of the world's petroleum production. Other major powers, except the United States, were similarly deficient in their home territories in naval oil needs, and naturally there were many civilian demands for petroleum. The world struggle for oil was on, and still continues. At the moment, as fissionable minerals loom so important, we may witness a new struggle which may equal or exceed that for oil.

The absence or presence of strategic materials affect-

ing the capacity of nations to exploit fully the new developments is also seen in the shift from timber to iron. This change greatly benefited Great Britain. She had long been dependent upon imported timber and often found it difficult to obtain a sufficient supply, especially for naval needs. The shift from timber found her with splendid iron ores, the necessary reduction minerals, and an advanced metallurgical plant. The introduction of heavy armor and powerful ordnance also favored the nation with a superior iron industry. In both the armor-ordnance and timber-to-iron changes, Great Britain possessed a head-start; until 1890 she was the world's greatest producer of iron ore, pig iron, and finished iron products.

THE ADVANTAGES OR DISADVANTAGES resultant from these innovations were nevertheless not absolute but relative. In the changes thus far mentioned, Great Britain, comparatively, gained immensely at first, except in the case of oil; and even there, with the exception of the United States, she did not fare less favorably than other major powers. There was another consequence that is often overlooked. The rapidity with which these naval changes took place caused rapid obsolescence in materiel. The constant supercession struck the mistress of the seas most disadvantageously. It not only proved financially burdensome, but rising political and industrial powers—like Germany, the United States, and Japan—by being able largely to write off, through obsolescence, the headstart of the British, became significant, even competitive, naval powers by essentially moderate efforts.

Moreover, the spectacular growth of German naval might and the ever-increasing complications of power politics in Europe tended to tie England to European waters and further benefited the rise of non-European powers. This rise of naval powers located elsewhere than in Western Europe took from Great Britain the keystone of her naval strength which had been hers since the navigators and explorers of the fifteenth and sixteenth centuries, in globalizing sea power, had moved her from a spot on the fringe of the then-known world to a position which by reason of geography enabled her to exercise a profound control over oceanic commerce and activities. The submarine and airplane still further deprived Great Britain of the benefits formerly enjoyed by her centrality and insularity.

Beyond doubt, the pre-eminence of British sea power in the nineteenth century rested upon a combination of geographical, technological, economic, and political conditions unique in history—conditions which did not continue into the twentieth century. The changing fortunes occasioned by the industrial revolution in general as it reached all parts of the world contributed much to the disintegration of this highly favorable British position; nevertheless, the repercussions of the technological developments on sea power in particular were most significant in effecting this changed power relationship.

As technological developments altered the power equation among sea powers, so also did they alter it between land powers and sea powers. Sea power enjoys less secure tenure because of certain limitations which have lessened the very forthright and significant advantages once enjoyed by the command of the sea. The substitution of the modern distant blockade for the historically-famous close blockade—a change necessitated by the shift from sail to steam, the development of long range coastal artillery and the introduction of underwater warfare of mine, torpedo, and submarine—is one example of these limitations. Another is the absolute necessity of an air arm and sizeable home force in the day of the paratrooper and strategic bombing which were uncalled for in former days. Discretion, however, must be exercised as these or other restrictions are considered; the over-all picture must be kept in sight. It is essential to recognize that it was not merely control of the air but also of the sea that made Dunkirk and Normandy possible and that it was the failure to control the sea as well as the air which prevented the German invasion of Great Britain. Nevertheless, it must be admitted that insofar as the changes in weapons and propulsion have limited the erstwhile fruits of the command of the sea, so far has the sea power component in the total power equation been circumscribed by developments of the modern scientific age.

There are other factors, however, which have been undermining, in a more fundamental manner perhaps, the former pre-eminence of sea power from the viewpoint of the over-all power equation. Prior to the twentieth century, sea power had the very great advantage over land power in its superior mobility and ubiquity. sea power in these respects has been slightly altered by steam, but the mobility of land power has been immeasurably increased by the railroad, motor car, and airplane. As horse and camel mobility have been superseded, land power with its new-found mobility can think in terms of the organization of continents and in the creation of nonoceanic economic systems. Land power has at last largely overcome, at least comparatively, its age-old handicap of not being able to command effectively and control adequately huge land blocks.

SIR HALFORD MACKINDER, the outstanding British geographer and one-time director of the London School of Economics, was among the first to appreciate the changing world in this respect. In 1904 in a remarkable address before the Royal Geographical Society, Sir Halford presented the view that the Columbian epoch of 400 years of discovery and colonization of non-European areas was virtually complete and that this cessation of world-wide exploration, a passing of the frontier as it

were on a world-wide scale, marked the establishment of a closed political system in which the technological developments as affecting land mobility were already altering the relative strength of land and sea power.

As Mackinder forecast the future, he saw the erstwhile landlocked peoples of Eastern Europe, Western and Central Asia, now employing the new mechanics of mobility, establish a great land power, a pivot state, which he termed the "Eurasian Heartland." Broad-based on the resources of half a continent, sea power could not prevent the creation of this pivot state. Yet once created, this Heartland power could move on to control the continents of Europe, Asia, and Africa—"the World Island," as Mackinder called it—and with these unmatched resources could become the indisputable master of the seas and totally dominate the world.

Mackinder's fears of a pivot land power, initially beyond the reach of sea power yet ultimately using land and sea power for world dominance, have not materialized. The German geopoliticians, conspicuously Haushofer drawing their ideas largely from Mackinder and their inspiration chiefly from Alfred Thayer Mahan, sketched the blueprint for the ground floor. Hitler and the Nazis were greatly impressed by the vistas offered, especially by such concepts at *Lebensraum*. Fortunately, at least for the Allies, Hitler did not follow the blueprint as drawn up by Mackinder and Haushofer. History may record as Hitler's supreme blunder his reversal of the Mackinder-Haushofer strategy for world conquest: his postponement of the subjugation of the Heartland (Russia) until his attack upon the rimlands to the west (Norway, Denmark, Belgium, Netherlands, and France). It surely must be left to history, to record whether events now shaping will see the Heartland state, World Island, and world empire of Mackinder reach and pass beyond the blueprint stage. Irrespective of such developments, the full weight of railroad and automotive transportation and the growing power of aircraft have certainly lessened comparatively the advantages which sea power formerly held over land power.

SCIENCE WITH ITS INVENTIONS AND DISCOVERIES has affected sea power in one further most interesting way. Can certain new developments, specifically atomic and biological warfare, make wars too short for sea power to prove effective? Perhaps no real answer can be given, but the question is far from rhetorical; it is, in fact, profoundly vital in the basic meaning of the word. Sea power, as has been pointed out, is only one aspect of total power. The decision in many wars, as in the Austro-Prussian and Franco-Prussian wars, has been virtually uninfluenced by sea developments. Sea power acts slowly; its effects are cumulative. A decision may well be reached before sea power could have time to make its influence felt. Frequently there have been anticipations for short wars, but often, if not usually, they have proved fallacious. The last instance was quite recent and the weapons were the *Luftwaffe* and the submarine.

Yet atomic and biological warfare appear so different, so utterly and so ruthlessly destructive and with so few and so inadequate defenses—despite electronics in fire control and guided proximity fuses in interceptors—that the pattern of the past, that every offense has its defense, seems scarcely sound as a verdict for the future. Highest priority ratings in the use of such weapons will probably not be armies or navies, which might be bypassed, but will be the sinews of power: the population and production centers. If such be the case, armed might in the old sense, naval or otherwise, has lost at least a part of its meaning.

The age of science has clearly modified and in parts transformed sea power. The significance of the command of the sea, the classic purpose of sea power, emerges, virtually unaltered. Aside from "the short war," the destruction or containment of the enemy fleet still remains a virtual prerequisite for the achievement of this command. The rating of the instruments most likely to achieve this objective have undergone modification and undoubtedly will undergo still further reclassification in the future. Undue glorification or undue disdain for any weapon appears most dangerous. The necessity for a well-balanced fleet of air, surface, and sub-surface vessels with adequate regard to fleet landing forces has been clearly demonstrated. The former major and well-nigh unrestricted advantages of the command of the sea—immunity to invasion, power to distract or interfere with the opponent's action on land, maintenance of one's own communications, the disruption of the enemy's lines in varying degrees have been partially circumscribed but most certainly by no means eliminated. Sea power, beyond doubt, has lost comparatively to land power as a result of the very marked increase in land mobility.

Despite these limitations and qualifications, it does not follow that the influence of sea power, civil and military, on the course of civilization has become an academic, historical question. In our modern world, in our changing world, the role of sea power in the life of a nation still remains important. In World War II, a truly global war, the pooling of resources and the transport of men and supplies to all quarters required for success comparative command of the sea. On no previous occasion were the difficulties greater in the achievement of that control; never before was the very existence of navies so threatened; never in the life of mankind was the influence of sea power upon history more marked. Nonetheless, in the closing months of the war, pure and applied scientists introduced a new age by tapping a revolutionary new energy source. It seems safe to say that the way in which that energy is handled will influence future history more than will sea power. USMC

The first body of regular Marines were mustered under the resounding title of Duke of York and Albany's, the High Admiral's Maritime Regiment of Foot

Why Marines?

By Maj Reginald Hargreaves, MC

Illustrated by the author

". . . for they are like men of the ancient race that were forward in the fight, wielding their swords; who stood the melay as some mountain top rises above the flood. What wonder their glory liveth when all dissemblers shall have passed away!"

From the Tamil

IN THESE DAYS BEING ALIVE IS A HECTIC, SCURRYING business; and there are a whole cycle of problems we have no time to examine, a wealth of questions we lack the leisure to put, even to ourselves.

You, for example—you who have the right, the *privilege*, to display the anchor and globe in gunmetal on the collar of your tunic—have you ever stopped a moment to wonder *how* you are *what* you are?

Marines. Well, —why Marines? How and why did they come about?

It's a mighty old story; and since the English wrote in quite a bit of it, perhaps it would not be altogether unbecoming for a Britisher—and a mere horse-soldier at that!—to try and tell it.

Militarily speaking, the English are not particularly given to innovation. Adaptation—with the occasional improvement—of another fellow's notion, yes. But for the most part, they come so cautiously to new ideas that by the time they make up their minds to adopt them, they are already denuded of a good deal of their novelty.

True, at Creçy, in A.D. 1346, the English bowmen were the first to give a remarkably convincing demonstration of the fact that missile weapons, properly handled, will tumble into ruin any attacking force, however formidably armoured, that comes within their range. (And with that, the writing was on the wall for that absolute dominance of the battle-field by cavalry, which had lasted since the astounding conflict at Adrianople of A.D. 378.) But it was not until a further 360 years had passed—leaving Creçy no more than a memory—that John Churchill, 1st Duke of Marlborough, introduced another military novelty, in the shape of an army that carried its own rations with it on the line of march. By so doing, he freed himself from the dragshot of "fixed magazines"; and, having short-circuited the inevitable delays associated with "living on the country," he restored to warfare a mobility to which it had virtually become a stranger.

If we discount their introduction of khaki as a service dress, it was a further 200 years before the English produced another military innovation—looming grotesquely through the heat haze and dust of battle on a September morning of 1916—in the form of the tank.

In the interim, however, an organization had come into being and gradually taken solid shape, under whose care and guidance there had crystallized that most fabulously serviceable of amphibious creatures—the Marine.

Like all the best "blythe spirits," the Marine took time to mature and come to perfection. He was not born "all standing." Like *Topsy* in *Uncle Tom's Cabin*, he "just growed."

To find the embryo, we must go back to the days when England was in the throes of organizing her first Royal Navy; the days of that shrewd, far-sighted Tudor King, Henry VIIth (A.D. 1456-1509).[1]

Up to *circa* 1488, the outbreak of hostilities had seen a navy improvised by the temporary hire of merchant vessels for the King's service. With the ship's company busily engaged in actually working the vessel itself, its fighting force had been furnished by ordinary land soldiers, called up by their overlords under the normal terms of feudal service. Superstructures, known as forecastles and aftercastles, were erected in the stem and abaft the waist, and filled with these soldiery and such light ordnance as the flimsy wooden "fighting towers" could support with safety. It was from these vantage points that the land-lubbers—when not too prostrated by *mal-de-mer!*—fought out their contests with an enemy whose armament of bows and arrows, javelins, spears, pots of quick-lime, and slings, was organized on very similar lines to their own.

[1]In an attempt to deal with raiding Norsemen, Alfred the Great (A.D. 819-901) had organized a makeshift navy of some forty vessels. The craft, however, remained the property of their respective owners and were dispersed when their protective task had successfully been concluded.

Maj Reginald Hargreaves is a British military writer who is perhaps best known in this country for his book The Enemy at the Gate.

With the end of hostilities, the superstructures were dismantled; the soldiery tramped ashore, only too thankful to feel solid earth under their feet again; the ship's company valedictorily spat on their hands, and gratefully reverted once more to the tranquil ways of trade.

Then some graceless oaf, having discovered that

". . . villainous saltpetre should be digg'd
Out of the bowels of the harmless earth"

to make gunpowder,[2] the complication of artillery was added to the craft of warfare. More and more the mere seamen, trying to work his ship, found himself obstructed by a clutter of "specialists," busy about their task of fighting it. When the novel device of gun-ports, cut in the ship's side, was introduced, matters reached such a desperate pass, from the mariners' point of view, that in sheer exasperation they joined in the task of serving the guns whenever they could snatch a moment from their other duties.

The drastic interference with the vessel's structure necessitated by cutting gun-ports could, of course, only be tolerated in a ship especially designed for warlike purposes. So it was the first "King's ship"—*The Great Harry*,[3] designed for Henry VIIth—that led the way in the matter of a gun-deck; as she was the first craft to carry a specially selected "care and maintenance party," mostly cannoneers, in times of peace. And there you have the paradigm of the Marine—the trained fighting man, capable of proficient service on land or sea.

As the technique of war demanded more and more of its practitioners, so the need for the all-time professional warrior increased. In 1660, the restoration of England's King, Charles IId, served as an admirable pretext for the founding of a small "Standing Army." It was not long before this nucleus of Horse and Foot was amplified by a contingent of sea-soldiers. In 1664 the "Merry Monarch's" brother, "Dismal Jimmy," assumed the Colonelcy of the first body of regularly-enlisted marines; who mustered under the resounding title of The Duke of York and Albany's, the Lord High Admiral's Maritime Regiment of Foot. By an Order in Council dated October 26th, 1664, 1200 men were endowed with a uniform consisting of a scarlet-faced, long-skirted yellow "sea frock"—in cut very similar to that affected by the Thames-side watermen—long buff gaiters, buff waistbelt, and a tall "mitre" cap of leather, covered with cloth of the same color as the facings. Their weapons included a firelock and a hanger, or short, brass-hilted sword. It was in this uniform that a contingent of marines was reviewed by the King on Putney Heath, near London, in the Spring of 1678. Being led astray by the resemblance of their headgear to that of the "new sort of soldiers called "Grenadiers," the diarist, John Evelyn, recorded of them that "they looked very fierce; and some had long hoods hanging down behind, as we picture fools; their clothing being likewise piebald redd and yellow."

Yet although their chief was head of the Admiralty Board, the Marines as a corps were administered by the War Department. This probably accounts for the fact that many of their non-commissioned officers had been selected from the Foot Guards. Temporary service with "the Admiral's Regiment" was popular, too, with many of the Guards' Officers; one of the numerous drove who did a tour of duty afloat—smelling powder at the battle of Solebay—being Ensign John Churchill, subsequently the great Duke of Marlborough.

But there were very serious drawbacks involved in being administered by the War Department—which in those days meant the Secretary of State for Home Affairs—rather than by the Admiralty. To begin with, in those fits of imbecile economy that invariably overtake civil administrations before the echo of a war's last shot has died away, the Marines were invariably the first to suffer whittling down. Sometimes they were drafted *en bloc* into the Brigade of Guards. Sometimes they were "discharged to the forecastle," which meant, in effect, their demotion to the status of "foremast man," or deck hand. It is to cast no reflection on the seaman to affirm that, in the opinion of the contemporary marine, this was tantamount to the Cromwellian punishment of "being degraded to a common pioneer."

But whenever trouble was brewing, Marine formations sprang into bristling existence as the Spartans leaped into lusty life, fully armed, from the dragon's teeth sown by Cadmus. Thus, in the reign of Orange William (William IIId, A.D. 1650-1702) the War of the Spanish Succession called no less than six regiments of Marines into being; to be amplified by a further half dozen battalions of Foot, earmarked for service at sea. Supplementary independent Marine companies were to be found in the West Indies; while depot units stood guard over the great maritime centres of Chatham, Portsmouth, and Plymouth.

As was customary in those days, so-called Invalid Companies, of older men and convalescent casualties, formed a reserve to the more active units; the "Leathernecks"[4] at the ports, when not on guard duty, "being employed in heaving out ballast, manning cranes, removing stores, laying cables, and suchlike fatigue duties." For this assorted toil they were rewarded at the rate of

[2]The dubious credit for this malign discovery—if not attributable to the Chinese—must go to that far from monastic monastery-dweller, Roger Bacon (A.D. 1214-1292); although a pretty damning indictment could be framed against Berthold Schwartz.

[3]Originally named *The Regent*.

[4]The British Royal Marines have had, and still respond to, many nicknames. Amongst the better known are "the Jollies", "Neptune's Bodyguard", and "the Leathernecks". A 'tame Jolly' was the old name for a citizen-soldier, such as were to be found in London's City Trained Bands, from which the Marines recruited freely. 'Leatherneck' refers to the stock which for many years constricted the unfortunate marine's throat—to his sailor comrade's half pitying, half sympathetic amusement.

sixpence a day, additional to their pay. It is almost unnecessary to add that this unwonted burst of generosity was not allowed to create a precedent!

But the *nuances* of administrative procedure were in no way allowed to affect the prowess of the Marines on active service, ashore or afloat. One of their earliest and most gallant exploits was the capture, under Adm Sir George Rooke's direction, of the formidable fortress of Gibraltar (July, 1704). Under cover of a terrific bombardment from every gun the Admiral could bring to bear, a strong force of Marines was landed on the narrow isthmus joining the Rock to La Linea, on the mainland; and the stronghold's beetling defences, after a bitter tussle, were taken in flank and rear. There were Dutch as well as British ships in Rooke's command; and Marines from the Hollander warcraft accompanied their British comrades—now in "redd frocks, with mixed lace"[5]—in the assault. For other Powers had followed England's example in forming corps of Marines; Holland, as *Britannia's* most formidable rival at sea, giving the lead in this particular to France and Spain.

But the Peace of Utrecht (A.D. 1713) saw the British Marine *per se* disappear like a genii returning to his bottle. One or two of the battalions reverted to their status as Regiments of the Line, while of the remainder it can only be written that "they ceased upon the air without pain."

"Old soldiers never die," the popular song assures us, "they simply fade away"; presumably to reappear in their own good time. This was certainly true of the British Marines between 1715 and 1739; during which unhappy period the lower-deck lacked anyone to share the fun with when things went right, and the quarter-deck were without the principal target for their anathemas when things went wrong.

But in 1740 war with Spain—"the War of Jenkin's Ear"—brought a hurry-call for Marines which was loud and urgent. An initial six regiments of "Leathernecks" were promptly formed and hustled aboard the ships of Adm Vernon's squadron, bound for Porto Bello and the, ultimately disastrous, siege of Cartagena. In the same ill-fated expedition there were sturdy men from Massachusetts and a fine Virginia regiment under the youthful Lawrence Washington; while the Adjutant-General of the force was Brigadier Edward Wolfe, father of the conqueror of Quebec.

But divided councils and the ravages of "Yellow Jack" played havoc with the high hopes with which the enterprise had started out; and it was a sorry remnant that ultimately sought the refuge of Jamaica, "having done little more than strew the Spanish Main with corpses."

But 1740 had also seen the enrolment of four battalions of Marines in New England, when "the Royal Standard was erected at New York as a signal post to which every volunteer was to repair." For this formation "the Field Officers and Subalterns were appointed by the King, and the Captains of Companies were nominated by the American provinces; Col Spotswood, of Virginia, being appointed Colonel-Commandant of the whole."[6]

Other regiments of Marines were busily engaged in all quarters of the globe; some blistering under India's heat at Aria-Cupang and Pondicherry, others sweating and floundering in the steamy mangrove swamps of the Coromandel coast, or exchanging bayonet thrust for claymore stroke with Bonnie Prince Charlie's Jacobite followers amidst the trampled heather of Culloden Moor.

In 1745 New Englanders again made the acquaintance of the British 'Jolly' with Governor Shirley's expedition, under the command of the wily, resolute William Pepperrell, for the reduction of the French stronghold of Louisbourg, on Cape Breton island. Carried through by hastily mustered levies from Massachusets, Connecticut, and New Hampshire, with a few Rhode Island longshoremen thrown in for good measure, for a combination of sheer impudence and stark courage 'Ist Louisbourg' entirely warrants Charles Lucas's description of it as "the most brilliant feat of arms ever achieved by British Colonists."[7] But Pepperrell himself was the first to acknowledge the invaluable aid afforded by the 'professionals' forthcoming from Commodore Peter Warren's squadron of British warships. From this modest little fleet a shore-party of 300 marines was landed; and their work—especially with the guns, of whose proper working Pepperrell's merry men were magnificently ignorant—was generally admitted as invaluable.

Marines were well to the fore when Amherst and Wolfe laid siege to Louisbourg a second time in 1758. And it was the marines and seamen of Saunder's fleet who manhandled the vital guns and supplies of ammunition up the rocky slopes of the Ance du Foulon, to consolidate Wolfe's triumph on the Plains of Abraham.

Then, on a broiling day in the September of 1782,

Formed in 1664, the British Royal Marines have had many ups and downs. Although they have proven their worth in a hundred different battles and skirmishes, they have always been the first to feel economy's axe. Sometimes they have been drafted en bloc into the Brigade of Guards

[5]That is to say, lace composed of red, white and blue wool, interwoven.

[6]"Historical Record of the Marine Corps," Richard Cannon (1835).

[7]In "The Empire at War," Vol. I.

after more than three and a half years' steady siege, French and Spanish Marines pushed off in the newly-designed floating batteries which had been planned to tumble Gibraltar's indomitable defenses into ruin. Unhappily for their soaring expectations, want of support by the Hispano-Gallic fleet left the strange new craft exposed to the murderous counter-battery work of the defenders—artillerymen, infantry pressed into service of the guns, and a strong contingent of British 'Leathernecks,' to whom work at the fortress batteries had become second nature. The floating batteries had, of course, been designed to continue in action immune from the effect of any missile that might be hurled at them. From 600 to 1,400 tons burden, those sides of the craft which were exposed to fire were fitted with a substantial bulwark, complete with sloping roof, made up of three layers of squared timber, three feet thick, separated by wet sand and backed by a layer of dampened cork. Saturated hides over cork mats protected the penthouse roof, and the whole contrivance was fitted with an elaborate system of pipes, conveying water from a central reservoir to every exposed part of the ship's structure. 'Fire-parties,' under the charge of an officer, stood by to deal with any conflagration that might break out.

But the red-hot shot from the Rock's defiant batteries poured in at such a furious rate that first one and then another, and ultimately six out of the total of 10 battering-ships, were blazing furiously. And with that, the last grand attempt on the stronghold's hard-fought defences gradually died away. The men of the Marines had toiled and strained with the best of them. But as one hefty 'private centinal' wiped the smoke-grime from his face and shrugged himself into his soiled "redd frock," he growled out with a sort of salty relish, "They chucked plenty of 'ot Spanish chestnuts at us, but they worn't so 'ot as the 'ot potatoes we chucked back at them!"

A little over seven years earlier, by a decree of the American Congress, the United States Marine Corps had come into being; Lt J. Trevett inaugurating his recruiting campaign at the Tun Tavern in Philadelphia. By 1798 the Corps had been established on a firm footing; and the protection of United States shipping, against French and British privateers alike, was a task for which sailor and marine accepted joint responsibility.

The outbreak of war with revolutionary France of 1793 found the British Navy distinctly in the doldrums; and so great was the dearth of Marines that in 1794 no less than fifteen regiments of the Line had been torn away from a protesting War Department for distribution throughout the fleet. On no one did this press more heavily than on the Duke of York, trying to turn a Corporal's guard into an expeditionary force for service in the Netherlands. Yet the Duke ever entertained the kindliest feelings for the sea service that so consistently milked his forces of some of their finest men. Dining at his Field Headquarters in Holland, on one occasion, he gave directions for the removal of a bottle that had faithfully gone the rounds with the jovial order, "Take away that dead marine." Instantly an Officer of the Corps was up in arms to remark, "Really, I don't see why your Royal Highness should liken a marine to an empty bottle." Promptly, and with the Duke's most disarming smile, had come the suave response, "Simply, my dear sir, because he is a good fellow who has done his duty and will do it again."

As the war with France increased in intensity and scope, so the Marine was called upon for ever more variegated services. Napoleon, sweeping through Egypt like a tornado, swung up through Syria to strike the road to India. Halting for breath before the flimsy battlements of Acre, his orders were to reduce the crumbling stronghold out of hand. But he had reckoned without the British ships prowling purposefully in the bay. Shore-parties of marines joined the Turkish garrison lining the walls; and 16 desperate attempts to carry the defences by assault left a frieze of tight-lipped Ottomen and grinning "Leathernecks" in triumphant possession of the fortalice.

MARINES were the spearhead of Nelson's assault on Teneriffe; and the little Admiral was a lifelong sponsor of a Corps which never failed to render him outstanding service. Indeed, it was owing to the obstruction and lack of co-ordination he experienced at the hands of the Royal Artillery personnel manning his bomb-vessels that Nelson, in 1804, strongly urged that the Marines should have an artillery branch of their own. In the teeth of considerable opposition, the suggestion was adopted; and the ships' heavy ordnance, which had hitherto been the exclusive province of the sailor, welcomed Marine gun-teams to their service for the first time. Like their comrades of the 'Red' Marines, who had been taken under the Admiralty's wing in 1755, the 'Blue' (or Gunner) element was made a responsibility of the Navy; the two branches working harmoniously side by side until amalgamated, for "reasons of economy," in 1923.

Ironically enough, it was from the musket of a marine that Nelson received his death wound at Trafalgar; Sgt Robert Guillemard firing the fatal shot from the mizzen-top of the Gallic first-rater *Redoubtable.*

For their loyalty and good discipline during the Spithead and Nore mutinies of 1797, the Marines, by especial warrant, had been rewarded with the prefix 'Royal'; and a year or two later a few of the ubiquitous "Leathernecks" managed to worm their way into Wellington's strenuous campaigns in the Iberian peninsula. Appropriately enough, it was a Marine Guard of Honour that presented arms as the surrendered Napoleon stepped on board the *Bellerophon;* and, with memories of his defeat

at the sea-soldiers' hands at Acre, the little Corsican's inspection of the rigid files was particularly searching and thorough!

There were Royal Marines helping to man the heavy batteries when, in 1855, the Franco-British forces settled down to the siege of Sevastopol, in the Crimea; where winter climatic conditions must have reminded some of them of their journeys of exploration to the Arctic with Parry, Ross, Franklin, and Back. Being ever ready to try anything once, Capt Brock, R.M. mounted some of his shore-party of Marine artillery-men on borrowed cavalry horses and set them to trailing the tails of their coats in the hope of luring the Cossack riders within range of his guns.

There were marines on the cannon drag-ropes with the Naval Brigade marching with Sir Colin Campbell's force for the relief of Lucknow at the time of the Indian Mutiny. A year or two later a specially selected detachment of "the Jollies" were sent to form a guard and mounted escort for Sir Rutherford Alcock, the British Ambassador to Japan. Another mounted detachment—without any preliminary training to the saddle—helped in the suppression of a native revolt in the West Indian island of St Vincent. It can only be surmised that this readiness to essay the perils of equitation was by way of a return gesture for the promptitude with which, in 1797, the men of the 17th Light Dragoons had unshipped their spurs and clambered aboard to serve as Marines in HMS *Hermione*, during a temporary shortage of the genuine article.[8]

French Marines furnished the hard core of the Paris garrison when *la ville lumière* was under siege by the Germans in 1870-'71. Not only did they man the gun-boats operating on the Seine, but the balloons, which formed the beleaguered city's only means of communication with the outer world, were their especial charge. Later, during the rancid saturnalia of the Commune, they formed the backbone of the force with which the faltering Third Republic strove desperately to restore some sort of law and order.

When, in 1882, Gen Wolseley set about the organization of his forces for the relief of Gordon, surrounded and cut off in Khartoum, it was clear that, with the waterway of the Nile as his best line of supply, the expedition would have to be envisaged as an amphibious enterprise. Marines were promptly called in to man the light armament of the river gun-boats, and to supplement the men, culled from the infantry, capable of pulling an oar in the heavy small-boats. Work at the thwarts soon proved so heavy that "Leatherneck" and "swaddy" alike were reduced to patching the seat of their nether garments with old socks and native cloth; while "even portions of biscuit tins have been sewn on to the trousers," a contemporary war-correspondent reported, "to repair the wear and tear made by rowing."

But the marine's versatility was soon called upon to manifest itself in yet another direction. With local disease and the heavy going over the desert sand playing havoc with the cavalry horses, the need arose to amplify the small existent Camel Corps. Volunteers were called for, and many men came forward, not only from the ranks of the *arme blanche*, but from the Marines. Accustomed to any and every craft as they were, 'the ship of the desert' would surely present no difficulties that could not be triumphantly surmounted! But in some instances even the Marines' unfathomable resource was hard put to it to "keep things on an even keel" when it came to camel riding. "They were very amusing," Sir Charles Wilson, the Chief of 'Intelligence,' has recorded, "and very nautical.—'Quartermaster, can't you make that gun sit a little better on the camel?'—'Sorry, I can't, sir; camel's got 'is 'ump all a-starboard.—'Steer small, Bill.'—'Mind your helm, Jack, or you'll run me aboard!', were some of the phrases that caught the ear of Lord Wolseley as he reviewed the column previous to his departure for Metemmeh".

Then came slogging work, in open boats under the Red Sea's brazen sun, helping to suppress the slave traffic between Nubia and Arabia; a brush with Mexican guerillas in British Honduras; and then participation—together with Marines from the United States, France, and Germany—in the Boxer Rebellion of 1900. It was in this mix-up of a campaign that there occurred an event up to that time unique in history—an officer of the U.S. Marine Corps took over command of a remnant of British "Leathernecks," when all their own leaders had been killed, during the fighting at Tientsin. Together, they came out on top in as stiff a little action as has ever yielded victory; an event duly commemorated on the Royal Marines' China and South Africa War-Memorial at the Admiralty entrance to London's Horse Guards parade.

Since those days the Marines—particularly those of the United States and Britain—have been called upon to play their part in every conceivable phase of warfare; and with infinite courage, patience and resource they have invariably responded. Back in 1796, dour old Adm Jervis, Earl St. Vincent, had given it as his opinion that, "A very considerable corps of Marines should be kept up; and I hope to see the day when there is not another foot soldier within the Kingdom, in Ireland or the Colonies, except the King's guard and the artillery. Given a strong enough force of Marines, and you have all you require."

Well, that may be carrying the matter a little to extremes; but there will be few war-experienced men who would not be prepared to go a pretty long way with the veteran sea-dog in his challenging contention. USMC

[8]For that matter, during the war between the Restoration navy and the Dutch, 200 men of the (mounted) Life Guard had volunteered, and been accepted, for service with the Fleet.

In Brief

The Northrop X-4, the USAF's latest jet aircraft built to explore the high subsonic speed zone, made its first test flight recently. Chief identifying characteristic of the X-4 is its lack of a conventional horizontal stabilizer. Instead, it has only a single vertical fin. A broad, flat swept-back wing incorporates the horizontal stabilizer functions in much the same manner as does the Flying Wing, now being produced in quantity for the Air Force. The X-4 is powered by two jet engines.

The Army's basic military training program has been increased to 14 weeks from its former eight weeks, the Department of the Army announced recently. The new program will be adopted in the following training divisions: 3d Armored Division, Fort Knox, Ky.; 4th Infantry Division, Fort Ord, Calif.; 5th Armored Division, Camp Chaffee, Ark.; 5th Infantry Division, Fort Jackson, S.C.; 9th Infantry Division, Fort Dix, N.J.; and the 10th Infantry Division, Fort Riley, Kans.

The first production-model Fairchild Track Landing Gear was recently delivered to the 20th Troop Carrier Squadron of the 314th Troop Carrier Wing, stationed at Smyrna, Tennessee. The track-equipped C-82 marked the first of 18 installations now in production. Cutting the ground bearing pressure of the standard landing gear wheel by two-thirds, the track makes it possible for heavy aircraft to land on sod fields and unimproved strips.

Marine Corps rifle and pistol teams participated in 15 National Rifle Association pistol matches during 1948 and won 99 first and 85 second place awards in individual matches. In team matches against the two strongest teams in the United States, the Los Angeles and the Detroit Police teams, the All Marine Corps Team placed first in eight of 11 matches. The All Marine Pistol Team defeated Detroit five out of eight team matches. In the Calexico (California) State Championship matches the All Marine Pistol Team defeated the Los Angeles Police Team three out of three matches in the team competitions and established a new Service team record with the .45 caliber pistol over the National Match course.

The return of a hand salute from Army or Air Force personnel uncovered has been authorized by the Navy. A new regulation, primarily designed to cover situations where officer personnel of the Navy are in close contact and association with Army and Air Force officers, permits the uncovered hand salute "when failure to do so would cause embarrassment or misunderstanding." Saluting only when covered, however, has been a custom of the Navy since the American Revolution and will still continue to be the rule rather than the exception.

The Berlin Airlift Clasp and the Navy Occupation Service Medal have been authorized for Naval and Marine Corps personnel participating in the Berlin Airlift. Naval and Marine Corps personnel have also been authorized to accept the Air Medal and Commendation awarded by the Air Force. Personnel must serve 90 consecutive days or more on permanent or temporary duty while assigned or attached to a unit which has directly supported the Berlin Airlift since its beginning 26 June 1946.

Army tanks weighing up to 25 tons and ready for combat can be carried with ease inside cargo plane types already on quantity order, it has been announced by Headquarters, First Army. The Army Ordnance Department's research and development division has discovered aluminum alloys stronger than ordinary steel and is saving thousands of pounds by substituting parts made of new alloys for heavier steel.

The summer service and winter service uniforms (khaki and greens) have been authorized for liberty for Marine enlisted and officer personnel by Marine Corps General Order Number 13. However, in the interest of maintaining the traditional smart appearance of Marine Corps personnel, individuals are encouraged to wear the undress uniform (blues) on all suitable occasions. Appropriate commanders will prescribe the summer service or winter service uniform, depending on the season. The duty uniform may be undress or dress at the discretion of the commanding officer, but the dress or undress uniform for inspections, parades, ceremonies, and appropriate social functions is encouraged.

The XHJP-1, Navy's newest helicopter, is specifically designed for use with the fleet on carriers as a "guard plane" and on cruisers to replace the catapult scout planes now in use. The versatile rotor motor wing plane will carry five passengers or three litter patients in addition to the pilot and co-pilot. Built by the Piasecki Helicopter Corporation, the plane was designed for ship-to-ship, and ship-to-shore passenger and cargo carrying, and as a guard plane to pick up carrier pilots who have to "ditch." The plane has attained a speed of 131 mph and also performed the first known helicopter loop.

The Southeastern Division rifle and pistol matches will be fired during the week of May 16-21 at Camp Lejeune, N. C., while the Eastern Division matches will be held during the week of May 30-June 4 at the Marine Corps Schools, Quantico, Virginia. Competitiors in Division competions will be firing for a chance to compete in the Marine Corps matches to be held at Quantico during the week of June 6-11. This year's newcomers to competitive Marine Corps marksmanship will fire for Gold, Silver, and Bronze Badges, which will launch them on their way to becoming "distinguished" marksmen or pistol shots. Only medal winners are eligible to compete in the Marine Corps Matches at Quantico.

A member of any Armed Forces Reserve component is authorized to make application and be processed for a commission in another reserve component of the Armed Forces without resigning or jeopardizing his current commission or status, provided he attaches to his application a statement that he will be released if he is tendered an appointment in the reserve component to which he is applying. Marine Corps Reserve officers may obtain release statements from the Commandant of the Marine Corps, according to Marine Corps General Order 4. Enlisted personnel of the Organized Reserve may obtain statements from their respective commanding officers. Other reserve enlisted personnel may obtain statements from the Commandant of the Marine Corps.

The Marine Corps Recruiting Service did not accept any male recruits for general duty in the regular service during April. This marked the second consecutive month that the Marine Corps suspended acceptance of recruits. Enlistment of women for regular service continues.

The C-122 attack transport aircraft has successfully completed its initial test flight. An all-metal, twin-engined, high-performance, powered version of the CG-118 glider, the C-122 has been built to Army and Air Force specifications for economical transport of troops and equipment into forward areas where prepared landing strips are not readily available. Representing Chase Aircraft's fourth cargo transport in six years, the C-122 is designed to carry a 10,000 pound payload and cruise at 200 mph. It is powered by two Pratt & Whitney R-200 hp engines.

About 1000 PLCs will be enrolled from 180 of the nation's accredited colleges and universities this spring for summer training leading to Marine Corps reserve or regular commissions. The students, freshmen and sophomores, will be trained during six-week periods beginning 4 July in Platoon Leaders Class, Junior Course, Marine Corps Schools, Quantico, Va. In addition, more than 800 junior course graduates will be returning to Quantico for their second and final year of summer training, beginning 19 June. Members of the Platoon Leaders Class are paid while on active duty, receiving $90 a month during the first summer period and $100 a month during the final period. They are housed and fed while in training and also receive clothing, medical care, and transportation to and from their homes.

The Atlantic airlift was recently inaugurated by the Military Air Transport Service to ferry replacement crews for the Berlin airlift to Germany. A fleet of fast Lockheed C-121 Constellations, the military version of the commercial transport, will speed up the flow of cargo, mail, and personnel for "Operations Vittles." The Constellations make overnight delivery of MATS personnel from the U.S. to Germany possible. Cruising over 300 mph at 20,000 feet, the C-121 will complete four Atlantic round-trip crossings carrying 352 passenger in less time than it takes a C-54 to make three round trips carrying 180 persons over the same route.

Enlisted men, accepting commissioned ranks, who have previously held a temporary rank of warrant or commissioned officer and have been paid the uniform gratuity of $250 are not entitled to an additional payment of the uniform gratuity, according to Marine Corps Memorandum 15-49.

Air Transportability in the Marine Corps

By LtCol Ormond R. Simpson

THESE ARE THE AIRCRAFT—THE R5D AND C-82 TYPES —that we will probably have in the immediate future for the air movement of Marine troop units. How about loading them—what should the troop officers who plan and execute air movements know about loading transport aircraft? As with the aircraft itself, we are not concerned with the imposing array of technical information and data with which the transport pilot must be familiar. We are interested, however, in those basic essentials which should be known to all officers who might be engaged in the air movement of ground troops. The parallel to movement by ship is obvious. We have always considered that an understanding of the basic principles and techniques involved in combat loading amphibious shipping with landing force personnel and equipment was an essential part of any Marine officer's professional knowledge. Since the transport aircraft has been added as a possible means of transport, then it follows that an understanding of the fundamentals of loading aircraft is now essential.

There are three basic principles which it is worthwhile to know and understand: (1) the payload must not be exceeded, (2) the load must be properly balanced and (3) the cargo must be properly loaded and lashed. Let's look at these in turn and see what is significant about them.

First, the question of payload. In considering the types of aircraft, we mentioned some of the factors that influence payload—or the weight of cargo [illegible] personnel) that can be loaded. Remember that payload is what remains after all other factors have been [illegible] for—after allowances have been made for the weight of the aircraft, the gasoline, the plane crew and for the various [illegible]. It follows that if the payload is exceeded some [illegible] way. And since the weight of the plane [illegible] gasoline is fixed, the only place for the slack taken up is in lowering the safety factors. An overloaded airplane is sluggish in flight, it consumes fuel at an extravagant rate, and it may crash on landing. As a matter of fact, the "maximum allowable landing weight" is often one of the critical factors in determining payload.

As a troop or staff officer of a ground unit engaged in an air move, you will not be expected to compute payload. That is a job for the experts—the pilots or the staff officers of the air unit. The payload figure will be furnished you early in the planning. The point for you to remember is *don't exceed it!* To do so may be endangering the aircraft and crew, the cargo, and of more personal concern, you, if you are on the passenger list. Unlike loading a ship, it is not a question of "just one more man" or "one more box of gear." In a large scale troop movement payload calculations are too close for that.

Weight is generally the determining factor in aircraft loading. For most military cargo, a full payload will not fill the cargo compartment. So just because there appears to be plenty of room left in a loaded transport aircraft, don't assume that you can fill all this space with additional gear. There are very real and obvious reasons why the weight payload figure set by the air unit must not be exceeded.

The science of loading transport aircraft is essentially that of proper "weight and balance control." From the standpoint of the troops being transported, "weight control" means observing the payload figure set by the air unit. The second basic principle—that the load must be properly balanced—involves balance control. [illegible] than payload so let's look at it in some detail.

A LOADED TRANSPORT AIRCRAFT must be in balance in two directions. The first is lateral—or sideways toward the wings. Balance in this direction [illegible] concern us too much. [illegible] is concerned [illegible] the [illegible] near the [illegible] and consequently [illegible] the lateral balance [illegible]. Lateral [illegible] is usually taken care of "by inspection" during loading. This means simply that heavy items [illegible] located on or near the centerline or [illegible] about this line.

Balance in the other direction [illegible]

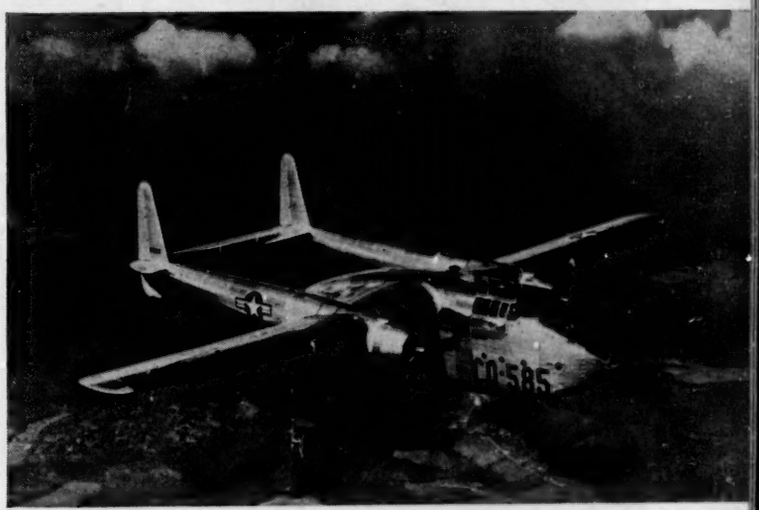
The problem of transport by air will be pursued further by Resupply by Air in Future Amphibious Operations *by LtCol J. C. Goldberg which will appear in the near future.*

Part II: The science of loading a transport aircraft is essentially that of weight and balance. The payload figure set by the air unit must not be exceeded and the load must be in balance in two directions — laterally and longitudinally

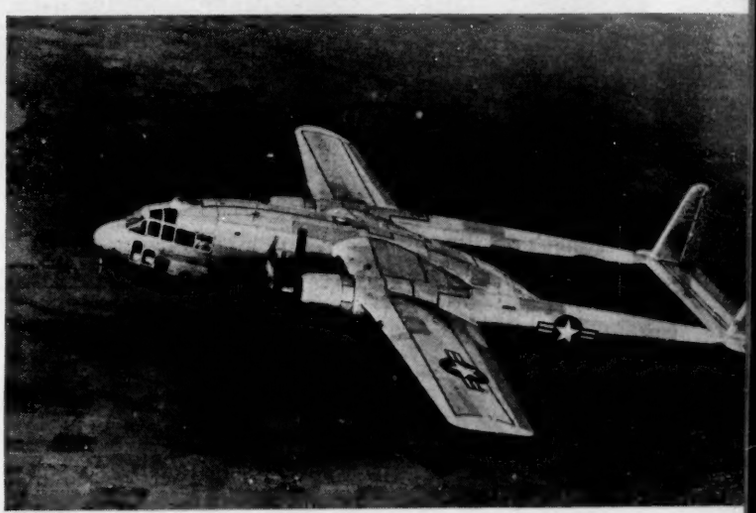
and aft—is another story. Here the position of the cargo makes a great deal of difference. The problem in longitudinal balance concerns the location of the center of gravity—or CG—of the aircraft. If lateral balance is correct, as it usually is, the CG is located somewhere along the centerline—or longitudinal axis—of the aircraft. In order to specify any given point along that line, the longitudinal axis is scaled off in inches. The point where that scale starts, the zero point, can be any point selected by the designers. For simplicity, consider that the scale starts at the nose of the aircraft and is graduated in inches toward the rear. With such a scale it is possible to say that the CG is located, for example, 315″ from the nose. The points along the scale are called "Station Numbers." So we can say that the CG is at "Station Number 315." Everyone who has flown as a passenger in military type transport aircraft has seen station number markings stencilled on the frames or the inside of the fuselage.

In designing aircraft the engineers determine the location of the CG which will give the aircraft the most desirable flight characteristics. This is called the "optimum CG." The engineers also recognize that loading cargo into the aircraft will shift the CG and they calculate the points farthest aft and farthest forward to which the CG may move and still permit the aircraft to be flown with acceptable safety factors. The distance between these points is known as "CG travel." The second principle in loading—that the load must be properly balanced—can be stated in more specific terms by saying that the "CG of the loaded aircraft must be within specified design limits." That means that it must be between the two station number limits set by the engineers.

You probably reason that this sounds sufficiently technical to be properly in the sphere of the pilots and air staff officers. It is. But it is also important for troop officers connected with air movement to understand why the cargo must be spotted accurately in the cargo compartment. It is necessary that they appreciate why balance considerations and not convenience must govern loading. They must understand the principle back of loading the heavy items of cargo well forward in the compartment and why only light cargo, if any at all,



Best of present troop and cargo planes is Fairchild C-82 (above) and its successor C-119 (below). These are AF types but Marine Corps can expect to use them.



is loaded in the after sections.

How is it that cargo affects the CG of the aircraft? The CG of most cargo aircraft is located well forward in the cargo compartment. If a heavy item of cargo is located at the station number of the CG, then the CG does not shift. However, if the cargo is moved to the rear, the aircraft tends to become tail-heavy and the CG moves aft; if the cargo is moved forward, the aircraft tends to become nose-heavy and the CG moves forward. The amount of this movement is a function not only of the amount of weight involved but also of its distance

from the original CG, or its moment arm. To appreciate this it is necessary only to remember a child's "See-Saw." Here a small boy located at the end of the board could balance a much heavier boy on the other side who was closer to the point of balance. It is an application of the basic principle of moments in physics. A moment is a product of weight times distance or moment arm. What does all this mean in aircraft loading? It means that a 200 lbs box of ammunition located 100" to the rear of the CG will have exactly the same effect on the longitudinal stability of the aircraft as a 100 lbs box located 200" to the rear of the CG. In both cases the moment (or weight x distance) is the same.

In order to make sure that the loaded aircraft is in proper longitudinal balance, it is necessary to compute the CG and check it against the specified design limits. This is not as complicated as it sounds. It can be done arithmetically and a comprehensive training program for troop officers to prepare them for air movements will normally include this arithmetical computation of the CG. The most expedient way of determining it, and the way it is normally done in practice by pilots, is to use the "Load Adjuster," a slide rule specifically designed for this computation. The final determination of the longitudinal stability, or location of the CG, is not the responsibility of troop officers. Since this stability directly affects the safety of the aircraft in flight, the pilot or plane commander is, in the last analysis, responsible to see that the cargo is loaded in such a way as to insure proper longitudinal balance. But all troop officers engaged in planning and executing the loading must understand the significance of the proper placement of cargo.

OUR FIRST two principles have given us a cargo load which does not exceed the critical weight and have insured that it is properly positioned in the aircraft for longitudinal balance. The third principle—that of lashing the cargo securely—is a logical addition to these two. Obviously, it does little good to compute accurately the location of the cargo required for longitudinal stability only to have the cargo shift on take-off or landing and thus change the balance. Shifting cargo in a ship at sea can be a very serious problem. Shifting cargo in a transport aircraft in flight can be disastrous! In addition to changing the stability, the shifting cargo may seriously damage the aircraft and endanger the passengers in the cargo compartment.

In a troop movement by air, loading and lashing of cargo is normally done by the troops under the technical supervision of the pilot or crew chief of the aircraft. A variety of materials can be used for lashing cargo. For moderate to heavy loads, ½" Manila line is the best and most commonly used lashing. It has a working strength of 2000 lbs. For extremely heavy loads, chain with a working strength of 3900 lbs is used. Some Air Force airplanes are equipped with the Evans Sky Kit which contains a number of lengths of chain, pull-jacks for tightening, and devices to hold the chain tight. Light, bulky cargo can be held in place by the use of nets. These nets are particularly useful when the cargo lacks the strength to sustain heavy lashing or where there is no place to attach other lashing.

Lashing must secure the cargo from movement in three directions: laterally, fore and aft, and up. The heaviest lashings are placed so as to prevent the forward movement of the cargo in the event of a crash landing or other sudden deceleration.

Transport aircraft are provided with "tie-downs" or fittings to which the cargo lashings can be secured. Some of these tie-downs are in the deck and others are located along the lower sides of the fuselage. The lashing crew must be able to recognize the tie-downs and not indiscriminately secure lashings to any convenient frame or tubing. Not all the tie-downs are of the same strength. For example, the R5D has some 40 tie-downs in the deck that will sustain an upward pull of 800 lbs, 25 that will carry 2000 lbs, and 16 that will hold 2500 lbs.

THE LOGICAL QUESTION that this discussion of aircraft and principles of loading poses in the mind of a troop officer is "What does all this mean to me? What's going to be expected of me and my unit if we have to move by air?" Obviously, any air movement of troops will involve two primary agencies: (1) the air unit providing the transportation and (2) the ground unit to be transported. Between these two, the basic responsibilities are divided in this way:

First, the air (or troop carrier) unit is responsible for:

(a) Providing the necessary aircraft and operating crews;

(b) All flight operations including preparation of the flight plan;

(c) Informing the troop unit of the available payload and other cargo data;

(d) Checking and approving the detailed loading plans for all aircraft;

(e) Supervision of all loading and lashing of cargo.

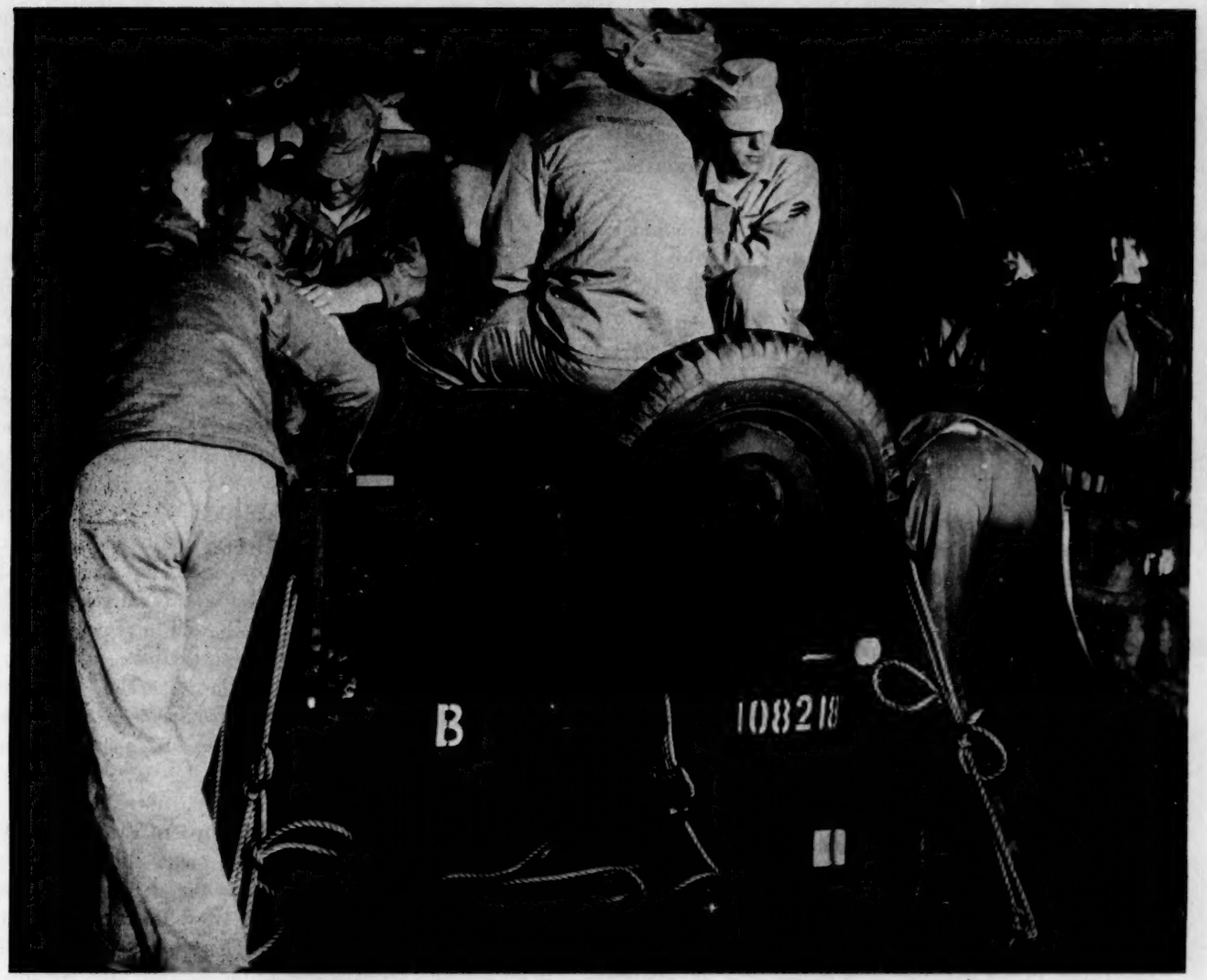
The troop unit being transported is responsible for:

(a) Preparation of tentative detailed loading plans for each aircraft. Each load must be within the specified payload. Plans include the arrangement of cargo for proper balance.

(b) Transporting all personnel, equipment, and supplies to the departure airfields and spotting them at the proper time and place for loading;

(c) Loading and lashing cargo under the supervision of the plane commander or his representative;

(d) Maintaining discipline of troop personnel in flight;



Tie-downs on R5D. 7th Marines on recent West Coast maneuvers used aircraft to transport troops and equipment to exercise area. Size of vehicles this plane will carry is its biggest handicap.

(e) Unloading cargo at the destination.

Let's look at a routine movement and see how these responsibilities would be carried out by the troop units. Suppose that a Marine infantry battalion is to be moved by air with a Marine transport group providing the transportation. Decisions regarding the number of flights or serials, the number of aircraft in each flight or serial, departure schedules, supplies and equipment to be taken by the battalion, payload of the aircraft, and many other pertinent points would be settled by joint conferences at higher echelons.

The infantry battalion commander now finds himself with a directive to move his battalion with certain supplies and equipment according to a set schedule in aircraft each of which will carry a definite weight of cargo. An early exchange of qualified liaison officers will go a long way toward solving many of his problems. The officer he sends to the air unit (transport group) must be well briefed on the battalion commander's plans and must be kept informed of changes and developments in these plans. The liaison officer from the group to the battalion should be qualified to assist in the preparation of loading plans and to advise on all loading problems.

One of the battalion commander's first problems is to divide his unit according to the available lift in each serial. This is analogous to dividing a battalion between a number of LSTs in loading for an amphibious operation. He will try to maintain tactical unity as far as he can but payload will probably be so precious that he will have to sacrifice unity at some points. This is not a serious defect since he is not expected to put his battalion into action immediately upon arrival.

After personnel equipment and supplies have been blocked out according to serials, the next problem is to make up the tentative loading plans for each individual aircraft within each serial. If this battalion has been

trained for air movement, this will not be a difficult task. Accurate weights of personnel, supplies, and equipment will be available as will a variety of sample or typical loading plans. Not only the battalion staff but company commanders and company officers assist in this task. The liaison officers from the air group will be invaluable in this work.

The first step will be to make up the individual loads according to weight, making sure that the total weight of the personnel, equipment and supplies does not exceed the assigned payload. The next step is to lay out the load for proper balance. If necessary data on the aircraft are available and if the troop officers have had sufficient training, it is possible for them to compute accurately the CG of the loaded aircraft in each case. Actually, the group liaison officer probably will be able to give the necessary supervision to this part of the loading plan. From his experience he should be able to spot the critical loads that will cause trouble. He will know that the majority of the loads will be similar in make-up since they will consist of personnel with combat equipment and a relatively small amount of bulk cargo. These are routine and easy to handle. He will check carefully the loads involving vehicles and other heavy concentrated weights.

Remember that the loading plans prepared by the troop officers are all tentative. They are not considered final until they have been approved by the pilot or the plane commander. This is the same procedure that applies, of course, to the plans for loading amphibious shipping.

Let's consider that the loading forms are well on the way toward completion and look briefly at some of the other problems facing the troop commander. What about lashing equipment? Normally, this is furnished by the air unit; however, the troop unit, by mutual agreement, may provide some of it if required. A check must be made on loading aids such as ramps for vehicles. If R5Ds are used, some provision must be made to get the bulk cargo up to the cargo door 9′ from the ground. The commonly used method is to load out of the back end of a truck.

And then there is the problem of planning the movement of personnel, equipment and supplies to the departure airfield. This schedule must be worked out in considerable detail. The outline will probably be developed in a conference attended by representatives of both the air group and the battalion together with those of supporting activities. It may develop that the group commander will want the vehicles and other heavy loads together with small working parties sent to the airfield in advance of the troops since loading and lashing this equipment will take much longer than loading the personnel. In any event, a schedule must be made up which will result in having the personnel and cargo for each plane spotted beside the plane at the proper time for loading. In many ways, it is similar to an embarkation plan for amphibious operations. Principal differences are that generally the time schedule will be tighter and that there are many more separate loads though each is but a small fraction of a ship load.

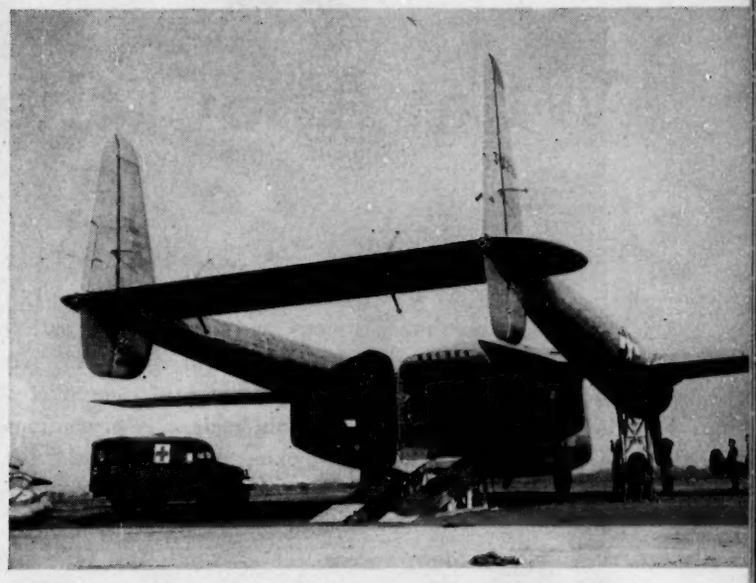
Where large numbers of aircraft are involved, the individual aircraft loads of personnel and equipment are assembled in the troop bivouac before moving to the departure airfields. Each load is given the same designation as the aircraft in which it is to be transported. The last two numerals of the number on the tail of the aircraft may be used ("tail numbers" instead of "bow numbers" as in amphibious loading). Another expedient is that of a "chalk number"—simply putting a number in chalk on the side of the aircraft and giving the troop load the same designation. Loading is simplified if each aircraft load is transported to the departure airfield in a single truck or two trucks for aircraft load. Guides must be provided who are familiar with the parking plan of the aircraft. It is well to remember that the truck drivers must exercise great care in handling their trucks around the parked aircraft. The "cowboys" who like to whip their trucks through tight places can scuttle an air movement before the first aircraft engine is started.

THESE ARE the things that concern the troop commander and for which he must make adequate plans. When the time comes to carry out the plan, the loads for the aircraft in the flight serial leave for the airfield in accordance with the schedule. The senior officer or NCO in each load carries copies of the loading plan including the passenger manifest. On arrival at the designated aircraft, the troop officer or NCO checks in with the plane commander who directs the loading. Bulk cargo is loaded and lashed before the passengers are embarked. Troops do the labor involved in loading and lashing but the plane commander or his representative (usually the crew chief) not only supervises but makes all final decisions. After all cargo has been secured and the plane commander gives the word, the troop passengers embark and take the seats which have been previously designated. During the flight the senior troop officer or NCO is responsible for the discipline of the troops. At the destination the unloading is just the reverse of the loading process. When the entire process has been repeated for all individual aircraft loads the air movement is complete.

It can be readily seen that thorough training will make possible the rapid and efficient discharge of the responsibilities assigned to the troop units. Staff officers can be trained in planning air movements; troop officers and senior NCOs can be trained in the make up and

Leatherneck

Side door is chief loading problem of R5D. Nine feet off ground, it has to be loaded from ramp, platform, or finger lift. Vehicles have to make right angle turn.



Clam shell doors of C-82 allows vehicles to be driven directly into plane. Since doors are perpendicular to long axis of plane, vehicles do not have to make turns.

computation of loads; all troops can be trained in the techniques of loading and lashing cargo. This type of training is now being carried out in the Fleet Marine Force. Officers from the divisions and separate units have attended the Army's Air Transportability School at Ft Benning. These officers are now conducting training programs in their parent organizations.

The Fleet Marine Force is taking advantage of the Army's experience in troop movements by air and in mounting airborne operations. Procedures developed by the Army and the Troop Carrier elements of the Air Force are being utilized as a basis for instruction in Marine units. Modifications are made where they are indicated by our own experience and when required by differences in Marine Corps organization and equipment. The basic texts which are being used are either available in all training libraries or can be readily procured. They are: TM 71-210 "Air Transport of Troops and Equipment," FM 71-30 "Employment of Airborne Forces" and FM 31-40 "Supply of Ground Units by Air." Another excellent text is "Air Transportability" published and used by the Infantry School at Ft. Benning. This latter one is not in general distribution.

Current training in the FMF utilizes the Army forms for planning the loading for air movements. These basic forms are: No. 1—Basic Planning Guide, No. 2—Air Movement Table, No. 3—Air Loading Table, and No. 4—Flight Manifest. These forms accomplish the same purposes for air movement loading that the UP&T Tables, Profile Loading Diagrams, Vehicle Summary and Priority Tables and other forms that we have developed accomplish for loading for an amphibious operation.

A training program for air movement does not require an elaborate array of equipment. Surprisingly enough, it does not even require an airplane. Principles of loading and procedures for load planning can be taught by qualified personnel in an ordinary classroom. Techniques of loading and lashing can be taught with the aid of an easily constructed mock-up or with a surveyed fuselage of a transport aircraft. Wherever possible, of course, all training programs involving loading should be concluded with loading into actual transport aircraft followed by a flight with all loading personnel as passengers.

Let's go back to the beginning where we found you as Executive Officer of the 8th Marines, an outfit that had just been put on 72 hours notice for an air movement. Now at least you know, in general terms, what this air move entails and you have some idea of what your part of the job will be. This is in no sense a short course in air transportability. And certainly it is not an attempt to over-complicate the subject. New terms and new procedures may make it appear complex at first glance. An understanding of these will reduce the problem to one of comparative simplicity. At best, this is but a "once over lightly." But if you will agree that it is a field we all should know something about; if you will agree that it is worth the time and effort of Marine officers to learn; if you will accept the premise that air movement is definitely a part of our responsibility; and, if you will do something to prepare yourself and your outfit to carry out this assignment when and if the order comes, then the purpose here will have been realized. USMC

What About the Reserve Officers

By 1stLt Cecil P. Lewis

MANY RESERVE OFFICERS WHO ARE EITHER FACING promotion or who have already been promoted under the Marine Corps' recent adjustment of the reserve lineal list are already wondering about their *next* promotions. A good many of them are looking this far forward, too, with anything but relish, for there is one basic question in their minds. That question is: "Will I be qualified?"

As we all know, during and for some time following the war, promotions were made without the professional examination of peacetime. A man's professional record was responsible in most cases for either his being picked or passed over for the next step up the military ladder. Now, under peacetime conditions, the old examinations are to be reinstituted, and reserve officers feel that they are the ones who will suffer most. They will not have had the opportunity to prepare for their jobs as have their brother officers of the regular Marine Corps. True, they can take numerous correspondence courses, but they will have missed the rigid maneuvers where battle theories and plans are tested. They simply will not have the field experience commensurate with their rank.

Here is a typical example. A young second lieutenant was discharged to inactive duty late in 1945 and received soon after his arrival home his promotion to first lieutenant. The promotion, though late in being delivered, had been approved some months before. Now, three years after this promotion, he has been raised to the rank of captain in the Volunteer Reserve with only two weeks of summer training as experience.

"My next rank will be major," he protests, "and I know nearly as much about serving as executive officer of a battalion as I do about breeding hybrid mice."

He is right, too. Older military heads will undoubtedly shake and numerous comments will be made about young reserve officers counting "their promotions before they're hatched," but the truth still remains.

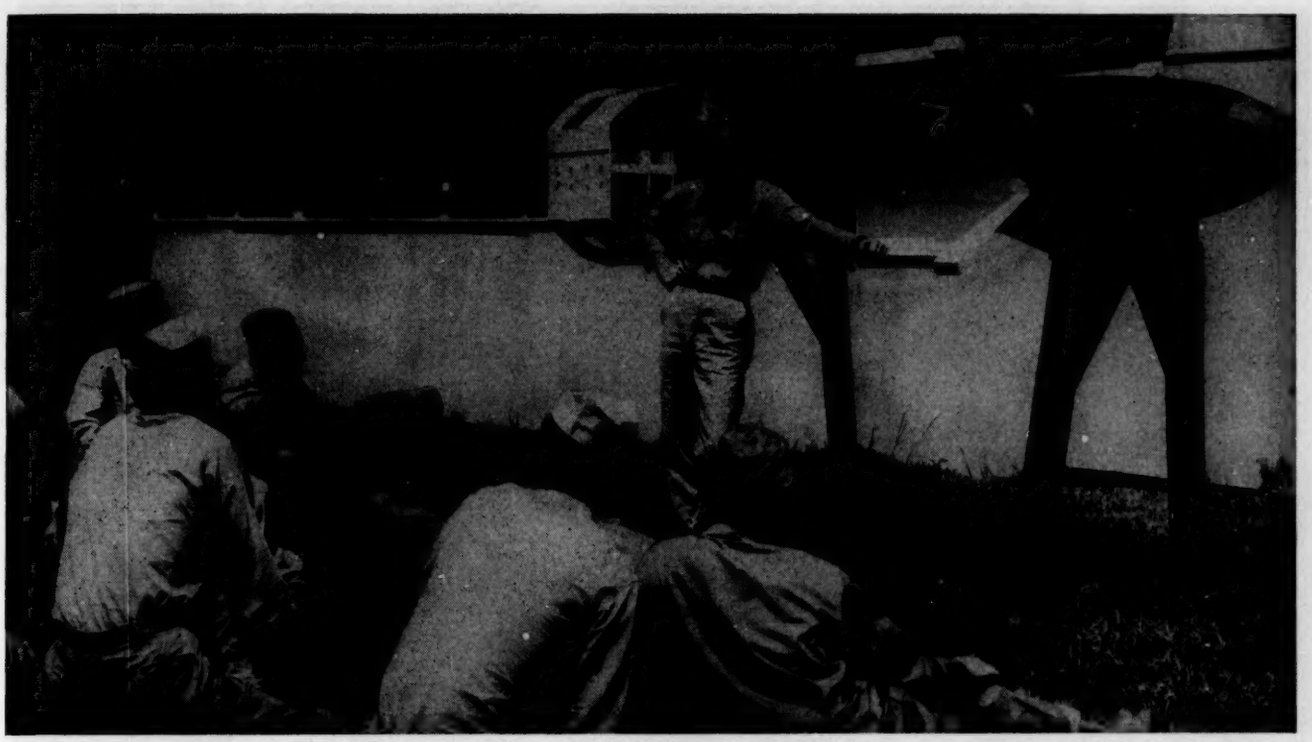
Many a second lieutenant who landed at Guadalcanal and lived through the war, came out several years later a major or even a lieutenant colonel. In an emergency, promotions would undoubtedly pyramid again, and most reserve officers would not be ready for the jobs that would be handed them. Two weeks a year of summer training is not enough.

There is no doubt but what the instruction offered during the summer training camps is competent, but it is not extensive enough. For instance, with reserve officers now being promoted, this coming spring and summer, many a volunteer reserve officer who may have had no opportunity to attend weekly drills and keep abreast of the situation, is going to be holding a rank which is totally new to him. Officers of the Organized Reserve will have only theory behind them. After all, tactics and field maneuvers cannot be practiced in an armory at once-a-week drills. As a result, there will be new captains who know little about the workings of a company other than the fact that a first sergeant will keep it straightened out for him *if* he is lucky enough to get a good first sergeant.

Admittedly, the ranks overlap to a degree and an officer should know something of the new rank he is stepping into through contact with it. We must remember, though, that when most reserve officers returned to inactive duty, they threw away the tables of organization and instead began reading the *Reserve Marine* or, perhaps, publications of the Marine Corps League. Not that they didn't want to keep abreast to current trends in the Corps . . . many of them did. But as civilians and with a living to make, there is not as much time to check up on how the new J(P) tables work, or find out why the Organized Reserves are still following the old organizational plan. There is, instead, time to read a little in the evenings, get the correspondence lessons in to the Marine Corps Schools once a month and attend summer reserve training every August. The rest of that spare time is spent in arranging budgets and filling out income tax reports.

THERE IS A PLAN, which if formulated and expanded, might prove the answer to some of the problems surrounding the reserve officers. True, it wouldn't be a cure-all, but one answer seldom does answer every question. This plan would call for a great deal more paper work in Washington, it would call for a great deal of patience on the part of regular Marine Corps components and would undoubtedly cut a large hole in the Reserve program's budget. Nonetheless, here is the plan.

1stLt Cecil P. Lewis is a reserve officer now living in Des Moines, Iowa. This is his first article for the GAZETTE.



Volunteer Marine Corps Reserve officers attending the Naval Bomb Disposal School at Indianhead, Md. Prospective promotions have them worried. They ask the question "Will we be qualified?"

If a man is recommended for, say, the rank of major, it will probably be that he will be called upon to pass the same or a similar professional examination as that given regular officers of his rank. By means of diligent correspondence with the Marine Corps Schools and high grades on his extension courses, it is quite probable that he might digest enough theory to pass the examination. Still, though, he is untried and untested in the field. Too, with thousands of reserves, both enlisted and commissioned, attending summer training sessions, chances are that he will not be closely enough observed for the reporting officer to offer his really personal views on his annual fitness report. In other words, he must spend more time in the field not only to learn his job, but to prove to the reporting officer and his superiors that he deserves the new rank which he has acquired.

To thoroughly prepare a man for advancement, he would be called to active duty for a definite period, he would be given a thorough review course, he would receive schooling on the duties which his new rank would put upon his shoulder and he would, thus prepared, be given an opportunity to prove to himself and his superior officers that he can carry out these new duties in the field, the office, or wherever else he may be.

Probably the simplest way of accomplishing all this would be to have the officer called before a promotion board, and have it explained to him that he is eligible for promotion, but that he will not be promoted until he has not only passed the professional examination, but received a satisfactory fitness report for performance of the duties which his promotion will call for.

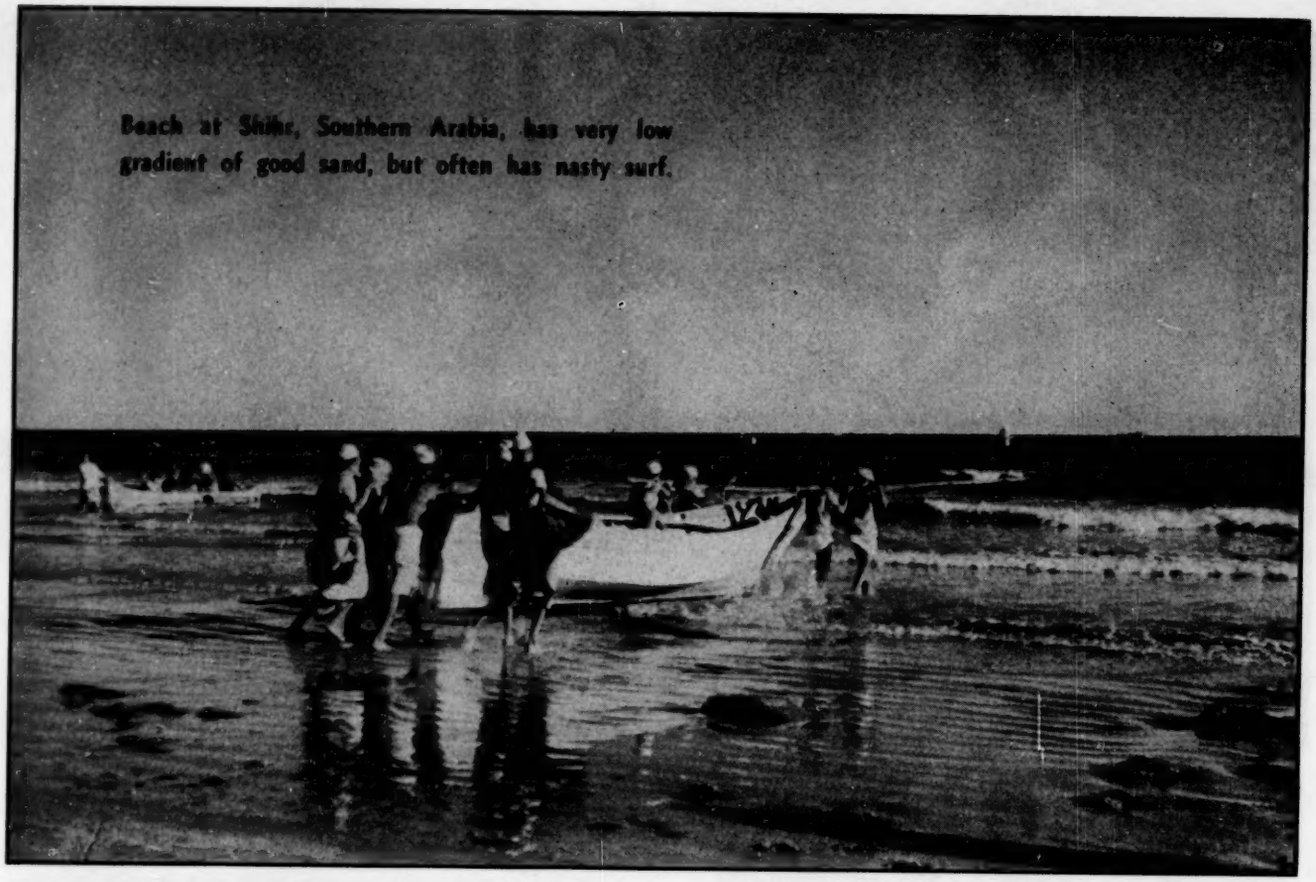
For this, he could be attached to one of the Fleet Marine Force units for a period ranging anywhere from one to three months and would understudy some officer holding the rank for which he has been recommended. During this apprenticeship, he would be allowed to fill that officer's shoes from time to time and perform his duties, thus learning and proving himself at the same time.

When this tour of duty had been satisfactorily performed and the examination had been passed, the officer, tried and proven capable of holding his rank, could then be promoted without members of a screening board wondering whether or not they had made a mistake. They would know the truth one way or the other.

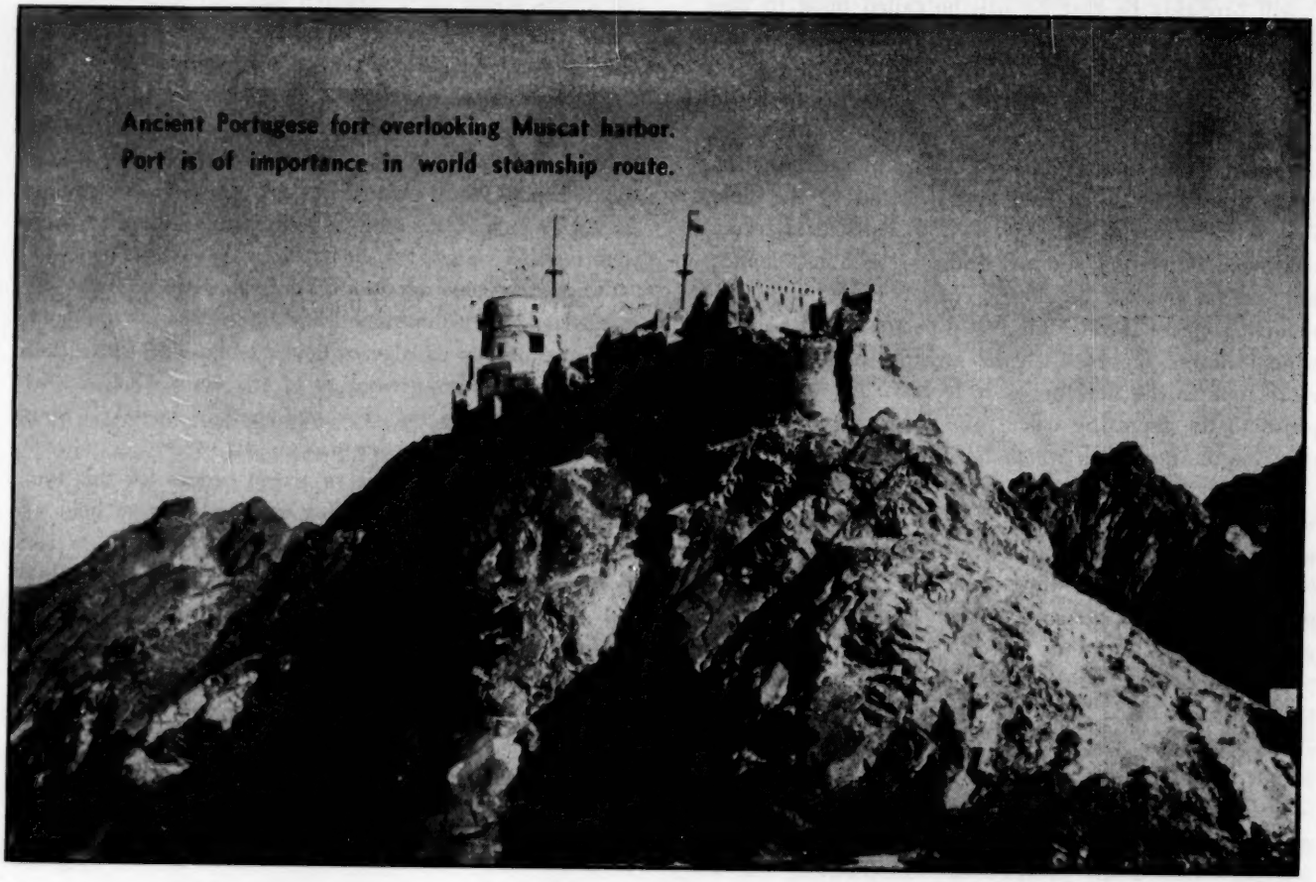
If an officer is not able to accept orders for this tour of duty, his promotion would automatically be held up until he is able to do so. His promotion, however late in being awarded, could still be retroactive to its original date of approval.

Of course, as was mentioned earlier in this piece, this plan would have many definite disadvantages. It would be costly; there would be reserve officers who would have trouble fitting it into their business schedules, and a definite training program for each rank would have to be set up. The increase in officer efficiency, however, might be well worth the resulting trouble and confusion.

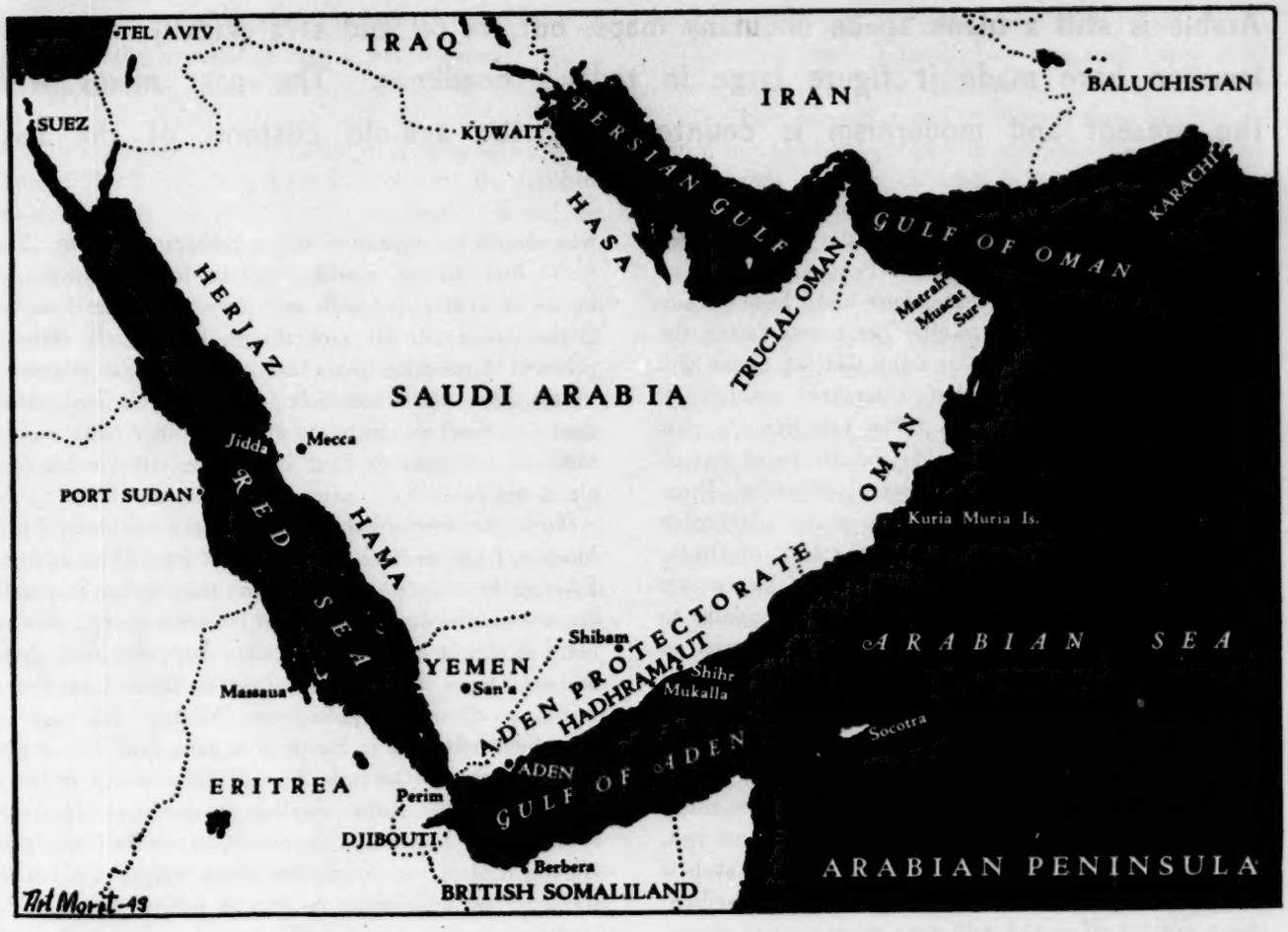
USMC



Beach at Shihr, Southern Arabia, has very low gradient of good sand, but often has nasty surf.



Ancient Portugese fort overlooking Muscat harbor. Port is of importance in world steamship route.



Around the Coasts of Arabia

By Comdr Alan Villiers, RNVR
photographs by the author

THE WHOLE PENINSULA OF ARABIA IS ONE OF THE MOST INTERESTING COUNTRIES ON THE FACE OF THE globe, and one about which least is known, even in these days of air travel. Air-liners pass regularly down the Persian Gulf on their way between Europe and India, the Far East, and Australasia; passenger liners, oil tankers, and cargo steamers use the Red Sea on the road to Suez and congregate there in numbers comparable to those other great shipping roads—the waters adjacent to the Ambrose lightship outside the port of New York, and the English Channel. But no roads and no railroads lead through the hinterland of Arabia, and there is no tourist literature to attract the wanderer there. The steamers and the airplanes, on the whole, pass by; much of the sea-borne trade of the great peninsula itself still goes by dhow, and much of the land travel is still by camel. The average man's real background on Arabia is nil. He has heard plenty about Palestine and he has heard about Oil. Maybe his womenfolk have told him about Sheikhs, regarding whom many of them labor under a host of peculiar misapprehensions. Perhaps in the war he had to do with a lot of colored persons called Arabs, around the ports of North Africa, and wondered—very reasonably—just what the heck an Arab was, or is, for the coastwise tribes of Algeria and Tunisia are not inspiring. Where is this place Arabia, anyhow; and who are the Arabs?

Arabia is still a blank space on many maps, but its oil and strategically important location have made it figure large in today's headlines. The past mixes with the present and modernism is countered by the age-old customs of the East

I PROPOSE here to deal only with the western, southern, and south-eastern coasts of the Peninsula of Arabia. The Mediterranean I shall leave alone, and I have already written about the Persian Gulf. The coasts facing the Red Sea, the Arabian Sea, and the Gulf of Oman will claim my attention here; that is territory enough. It takes three or four full days for a fast liner to pass down the Red Sea from Aden to the Straits of Bab-el-Mandeb, for the distance is just over 1,300 miles. From Aden, near the south-west corner, it is nearly 1,500 miles to Karachi in Pakistan, just across the Gulf of Oman. From Jiddah on the Red Sea — the port of Mecca — it would take a good dhow at least a couple of months to sail right around Arabia to Kuwait, in the north-west corner of the Persian Gulf; it might take her a month and more of that time to beat out of the Red Sea, for the wind nearly always funnels up that narrow, heated sea-thoroughfare, blowing hard from the south from Bab-el-Mandeb to about Jiddah, and then hard from the north out of the Gulf of Suez and down to a doldrums belt, somewhere about Jiddah. That north wind is such a fixture, and blows so fresh, that speaking as a sailing-ship sailor myself — and with some experience in dhows, among other vessels — I don't know how the ancients ever beat against it. It is a stinger, and it has no mercy.

AS FOR THE ARABS, the answer to just who and what is an Arab is a bit hard to define. All who dwell in the Peninsula are not Arabs, by any means, though most are Semites. There are plenty of Negroes throughout the peninsula. There are Jews in the Yemen, Somalis in the Aden Protectorate, and Indian business men by the hundred in all the main ports. One of the ruling families in the Hadhramaut is more Indian than Arab; the Malayaan language will get you by through many valleys in South Arabia, and Swahili, the *lingua franca* of the East African coast, will get you around most of the coasts of Arabia. Places like Aden, Jiddah, and the other main ports, are very cosmopolitan. Your Arab may be almost any shade of black and near-black, or he may be a blue-eyed Mediterranean type who would pass easily as a Greek, if he wanted to. The many shades of black are due to two things — the large number of Negro slaves and ex-slaves in the country, and the Negro and near-Negro concubines in many of the harems.

But don't get the Hollywood idea of a harem, though. Only the richest men go in for any real multiplicity of wives, and more and more of them are giving up what was always an expensive and a bothersome habit. You won't find sultans, sheikhs, and so forth playing with bevies of houris and such any place in Arabia I know: if they do go in for such things, it is in the strictest privacy. A good tip to anybody going to Arabia is never to ask after the womenfolk, anywhere. It isn't done. And you don't congratulate any Arab in Arabia on the birth of a daughter. That isn't done, either. Ask him about his sons.

No matter what his hue, if he speaks Arabic and is a Moslem, he is an Arab and you must accept him as such. Even in the remotest villages, don't think he isn't up with the news of the day — or at least his version of it. Radios blare in almost every village coffee-shop, and such shops abound. Even the nomad Beduin, in these days, has a fair idea of what is going on. Most of his news is manufactured either in Egypt or in Iraq, and it might be biased. But such as it is, he will know about it. Rich townsman, poor Bedu, dweller in the skyscrapers of south Arabia or a tent in the desert, Yemenite, Hadhrami, Omani, Hejazi, or Nejdi, he is no longer the cut-off wanderer he once was. As like as not, it you make a landing anywhere, you will come among people well aware of what is going on. In the old days, very few years ago, it was not so, though I have come across a Seyyid — descendant of the Prophet Mohammed — in the interior of the Hadhramaut who had been an automobile worker in Detroit.

ARABIA IS ESSENTIALLY A DESERT COUNTRY. Its area is roughly a million square miles, and in the interior, the inhabitants are, in the main, wandering Beduin whose wealth is their flocks and whose principles — apart from the tenets of Islam — are somewhat fluid. They used to eke out a poor living by breeding and selling camels, sheep, and goats. In many places, one of the major industries was raiding. This was — still is, in many places — also a sport, and it was carried on in accordance with a strict set of rules. Today more and more of the nomads make their way to the great new oil fields of the El Hasa coast (on the Persian Gulf, in King Ibn Saud's territory), Bahrein, or Kuwait. Most of the others share in the influx of wealth to some degree, and the life of many Beduin is no longer as down-to-earth as it was. Service in the armed forces, regular or irregular — mainly the latter — is increasingly open to them. There is plenty of scope, and they have the necessary talent. Just how many persons live in the peninsula of Arabia is not

known with certainty, for there are no vital statistics and life hasn't the importance that it has elsewhere. But a reliable estimate, a few years ago, placed the number at seven million. These live mainly in the Red Sea district of Hejaz, which was until recent years a separate kingdom, in the Yemen, the Aden Protectorate, the Hadhramaut, which is that great district between Aden and the Gulf of Oman (speaking broadly), and the Oman itself, which is the south-eastern corner.

The land surface of the Arabian peninsula slopes steadily from an elevated mountain barrier extending down the whole western side parallel with the Red Sea, to sea-level on the Persian Gulf side. The south-eastern corner interrupts the uniformity of this slope, for the mountains of Oman rise to 10,000 feet. For the most part, Arabia proper is a barren land of steppe-desert, sand waste, and mountainous wilderness. Such land breeds tough people. Much of the Red Sea coasts are bordered with coral reefs through which even the local dhows dare to sail only by daylight; ocean-going vessels keep to well-defined lanes in the middle of the Red Sea, and take care to navigate with caution even there, for there is much refraction and there are many mirages to snare the navigator. Refraction in the Red Sea is so great that it often throws out the results of astronomical navigation by as much as eight or ten miles. The coasts of the Yemen are particularly treacherous for their maze of reefs. The few ports here are open roadsteads only; there is not a good Arab port on the Red Sea, past the Gulf of Aquaba. Jiddah is a reef-filled shallow bay in which steamers of any size must lie a long way off: even the small dhow ports are only open roadsteads. Gizan, in Asir (which used to be a province of the Yemen), Hodeida, Kamaran Island, Mocha — all these offer only an anchorage which is sometimes precarious. The better ports of the Red Sea are on the African side—places like Port Sudan, Massowah in Eritrea, and Djibouti in French Somali-land. Nor do the Arab ports offer much in the way of repair facilities — not in the Red Sea anyway. In the Yemen ports the score is nil. As far as reliable repairs are concerned, Jiddah is little better. All communication with the port itself is by local dhow: the port maintains a fleet of some 300, which lighter in cargo and pilgrims bound for Mecca.

At Aden, on the south-western coastline, there are good repair facilities which are constantly being extended. The Anglo-Iranian Oil Company has a base there, and there are floating docks in the harbor (which is well protected) and good workshops ashore. Aden used to be under the government of Bombay and Indian money and Indian civil servants were employed there. Now it comes directly under London, and the British Protectorate covers the whole of the south-western corner of Arabia apart from the Yemen, the islands of Socotra and the Khorya Morya group (also spelled Kuria Muria — you can please yourself how you spell many Arab place names), and the Hadhramaut.

The Hadhramaut is just another of those vaguely defined states which abound in Arabia. Officially, it extends from just east of Aden to the borders of Mahra and Oman, but as these are also vaguely defined territories, and nobody does much surveying around those parts (except for oil), there is some approximation about precise boundaries and such things. Aden, at any rate, is a good port — the best in Arabia — and has a long history as a direct consequence of that fact. It has been British for more than a century. It was too important a coaling station on the Suez-Far East route to allow anyone else to have it, though the French countered with Djibouti. Though used comparatively little for coal bunkering now, it is an important port for oil bunkers, and its strategic importance grows rather than lessens. The town of Aden poduces little apart from salt and cigarettes (which sometimes bear brands very similar to well-known ones; but there is little similarity in the actual cigarettes) but it is a very important trading center. There is a good dhow yard on the beach at a place called Ma'alla and the local shipwrights are very good. Motors have been put in dhows here and have proved satisfactory, though not popular with the dhow-captains. There is a cable to Bombay, Colombo, and to Zanzibar, and another via the island of Perim — that well-known, barren island in the straits of Bab-el-Mandeb at the southern entrance to the Red Sea — to Port Sudan and Suez. There is steamer communication with all the main ports of the world, and you can pick up a dhow, in the proper season, for a run to the coast of Italian Somali-land, Berbera, the Gulf of Cutch, Jiddah, or anywhere in the Persian Gulf you want to go.

If you ever travel in a dhow, take along your own food, water purifiers, and good fishing gear. You will need a good sleeping bag, too, for there is no such thing as accommodation.

a background article

But those Arab dhows are good ships, in their own conditions and sailing their own seas. I ought to know. I spent a year in them and sailed a good 10,000 miles. It nearly killed me, it's true; but then, I didn't have any water purifiers, or my own food. It was customary to take in water from any mosque well or stagnant pool offering, for the Arab has a fine disregard for the better points of personal hygiene. Himself he keeps fit and clean (for he cleans five times a day for the Moslem prayers); but in Arabia as a whole, only the very fit survive.

There is a feeble sort of a local railroad that runs from near Aden to two places close by called Sheikh Othman, and Lahej. In Arabia as a whole, it pays to forget about railroads. Forget about good automobile

highways too, for such don't exist there. That doesn't mean you can't get about. There are plenty of tracks for asses, camels, and human beings. Some of these are even called roads, and in the right season (with a well-organized expedition) it is possible for automobiles to use some of the best of them. Roads of a sort connect most of the principal towns in the Yemen (where there are some lovely fertile valleys, and the best coffee beans in the world), and the hard-packed sand of the desert will support a good car. Despite the fact that in recent years the automobile has become a familiar sight in most of the more accessible areas of Arabia, the camel and the ass are still the most important means of transport in many areas. Tracks suitable for motor transport are increasing slowly, but the bulk of the interior trade still goes by the traditional caravan, at any rate in the greater part of the Hadhramaut, the Yemen, Oman, and Hejaz.

If we consider the interior communications of the Hadhramaut for a moment, we will get a pretty good picture of much of the Arab peninsula. The main town and the chief port is a place called Mukalla, a most interesting town set against a mountain on the south coast, which looks at first sight almost like a Hollywood backdrop. From Mukalla, a dozen caravan routes radiate into the interior, to places like Shibam and Seiyun (where there are extraordinary skyscrapers, built largely of mud but most impressive in appearance). Some camel caravans take six to ten days to reach their destinations, others a fortnight. Most caravans travel an average of six or seven hours a day only, and there are plenty of watering places along the routes. There is a camel park outside the west gate of Mukalla, and the annual entry is about 50,000 camels, from the interior, in addition to another 30,000 or so which come in caravans along the coast from the next port (an open roadstead only) called Shihr. (I have landed at Shihr. The beach is a very slow gradient of good sand, but there is often a nasty surf. The local sewn fishing-boats, however, find no trouble in negotiating it except in the southwest monsoon.) From 500 to a thousand camels enter the town of Shibam alone, each month, according to reliable statistics.

FARES ARE QUOTED by donkey or camel, and vary in accordance with the traveller's wishes, whether he wants to ride the whole way or only on the level, walking over the mountains and other rough places. The fare from Mukalla to a place called Du'an (six days' ride), for example, is $10 by camel riding all the way, $5 if you walk when the going is bad. By donkey the same journey costs $15 to $16, according to [illegible]. You also have to pay for the [illegible] the donkey leaders.

[illegible] some of the [illegible] are astonishing [illegible] ated with an upper crust of exceedingly wealthy business men retired from the East, almost every single thing used and consumed in them has to come over the mountains on camel-back. Cars are dismantled and brought in in pieces. It takes, on the average, 12 camels to carry one car in this way. Just before the outbreak of the recent war, there were probably less than a hundred cars in the whole of the Hadhramaut, and only 10 bicycles. Pushing a bike through the sand is tough work. There was not a car track in the territory longer than 25 miles, though the Royal Air Force had several usable landing-grounds, one of which is just outside Mukalla. Drift sand was a nuisance at some of the other fields; only an ancient biplane with a slow landing-speed and considerable maneuverability could use one or two of them. There will be a future for helicopters in Arabia some day, not only in the Hadhramaut.

Aden was the headquarters of the Air Force, and facilities were good there. Later, flying-boat bases were developed in greater or less degree at places like Bahrein (famous for its oil), Basra up the Euphrates in Iraq, and a spot or two on the Trucial coast in Oman. Between Mukalla and Muscat in Oman, there is not a sizable place of any kind apart from Shihr and the port of Sur, on the southeastern corner. Shihr, though it claims the Queen of Sheba and has a considerable dried fish trade, offers little now; Sur is one of the toughest towns in Arabia, and the Suri look like born pirates. Mukalla is a town of probably some 15,000 or 16,000 inhabitants: there are less than a third that number at Shihr. How many live at Sur probably no man knows, but the port has more than 50 deep sea dhows in the trades to East Africa and western India, and the Suri are important citizens of Zanzibar. The dhows take down passengers — it is by no means uncommon to see a couple of hundred or more aboard a little thing 60 feet long, in which they have been living for two months—and salt from Aden; they trade on the East African coast and bring back mangrove poles from the delta of the Rufiji river, in Tanganyika, mostly, or timber and cordage stuffs of coir from the Calicut coast of India.

The Sultan of Oman, who rules over Sur—at any rate nominally—was once also Sultan of Zanzibar: the Omani influence is still strong, down the east coast of Africa. Oman itself covers more than 80,000 square miles; an intelligent guess at its population is about half a million, of whom many are negroid, particularly along the coast. Oman was the real headquarters of the old slave trade; to this day, there are vestiges of it, though slaves are no longer run up from Africa or over the Red Sea in swift small dhows called *zarooks*. The *zarooks* still sail, but now they bring sheep from Berbera, and hides, and, huddled up on deck, hordes of fresh Somalis who are no slaves and have no [illegible] of becoming such, or much

Camel caravans are more than romantic in Arabia. Although the automobile has become a most common sight, the bulk of the inland trade still travels the old routes the same old way.

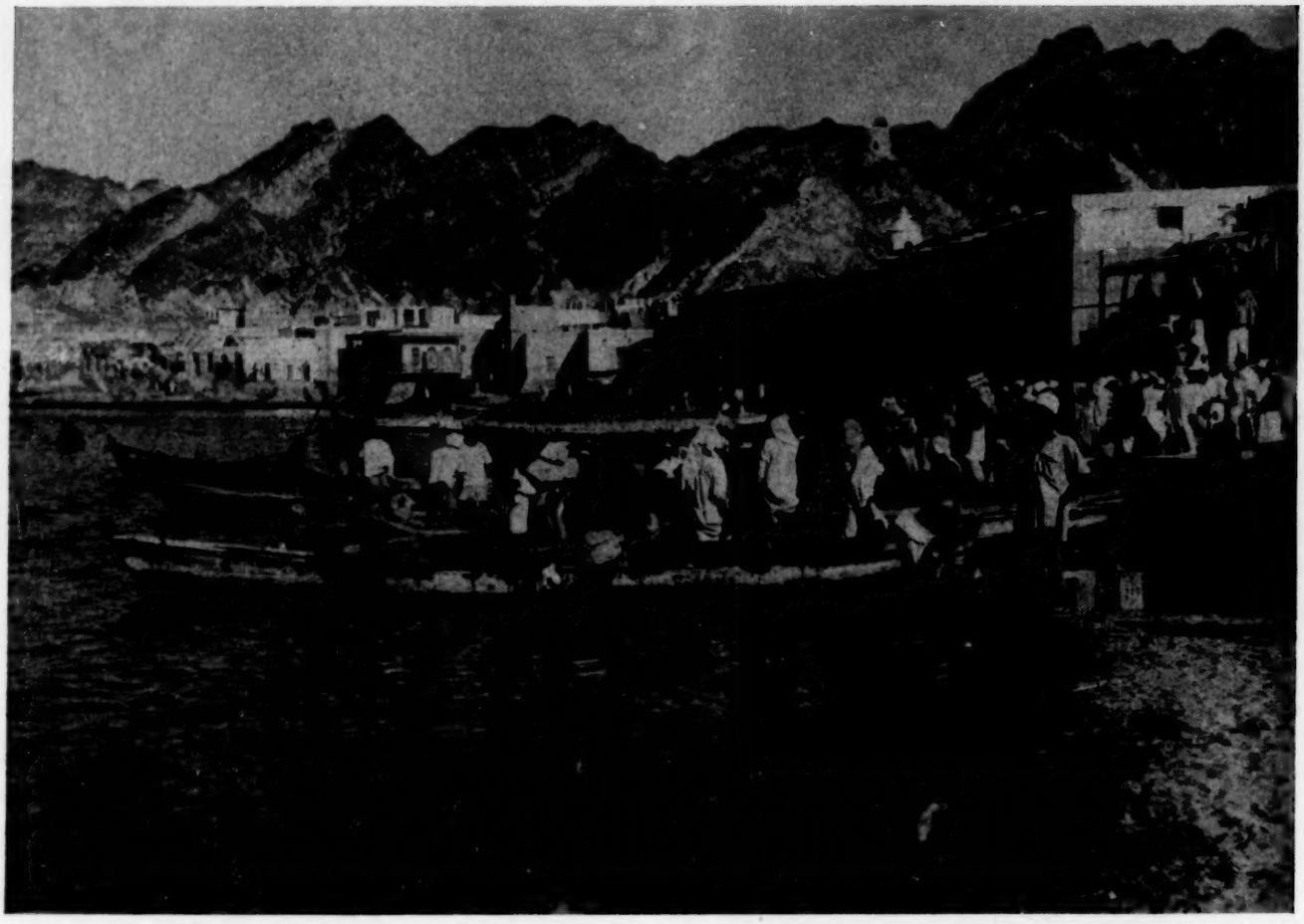
asset to Arabia either.

Muscat, in Oman, is a port of importance in world steamship routes. It is on the regular mail route between Bombay and Basra, and the Indian government, under British rule, maintained a post and telegraph office there. Native craft generally used the smaller, more open port of Mutrah, immediately to the north of Muscat harbor. Here there is the usual covered bazaar, and fish market—most unhygienic — on the beach beneath the hot sun. Many of the inhabitants are Baluchi, from Baluchistan across the Gulf of Oman. At Mutrah bay I have seen some of the most primitive sailing-vessels still using the deep sea, some of them dating back, surely, to Phoenician days. Incredibly small and inefficient vessels sail from there down to Zanzibar, in the good season, and frequently also sail back again.

Around the whole of the southern coasts of Arabia and in the Gulf of Oman, the good season is the northeast season. There are two annual monsoons, northeast and southwest. The northeast lasts from October to the middle of April or some time in May; the southwest blows during most of the rest of the year. From the beginning of November to the end of February, the northeast monsoon prevails as a steady moderate breeze with fine, settled clear weather and a smooth sea. These are the conditions which the dhows revel in, both coastwise and deepsea. It is not at all uncommon to find 50 in together at a place like Ma'alla. The area of greatest regularity in this northeast wind is to the eastward and southeastward of the island of Socotra. In March the winds are variable, and now the big dhows begin to come home from Zanzibar and across the Indian Ocean, for they do not like to be out in the southwest monsoon. The weather then is often thick, hot, and extremely unpleasant, and the wind may reach gale force with a nasty sea. The southwest season is no time for amphibious exercises.

As for the Red Sea, the place is notorious for its humidity and trying, enervating heat. With so much desert close by, one might expect that the extremes of dry heat and night-cold from the desert would be moderated by the sea, with the result that there would be an equable climate, the more particularly as a great deal of the Red Sea area is north of the tropics. But in fact, the Red Sea presents an alternation of desert and sea climates — extreme dry heat in the summer, and steaming winds from the sea, both bringing intense discomfort; winter is a little better, so long as the wind blows down the Red Sea and not up it, from the southeast. The southeast wind brings excessive humidity, and even the natives become lazy and depressed which, contrary to some beliefs, is by no means their general attitude.

The most trying conditions for personnel travelling in the Red Sea are to be found aboard transports going either north or south, with the wind following them at the same speed as the ship, and insufficient or no air conditioning. These conditions cause heat prostration, for which the Red Sea is notorious. But ashore the climate is not so bad, especially if people learn quickly to gear their lives to the existing climatic conditions and not those they knew back home. The busiest time in the Arab day is from dawn to about 10:30 am. The Arab eats lightly at dawn, generally breakfasting on a little unleavened bread and some strong tea, heavily sweetened: at 10:30 he has his mid-morning meal, and does not eat again until the early evening. His robes are cool and comfortable; his house, though lacking in sanitation and



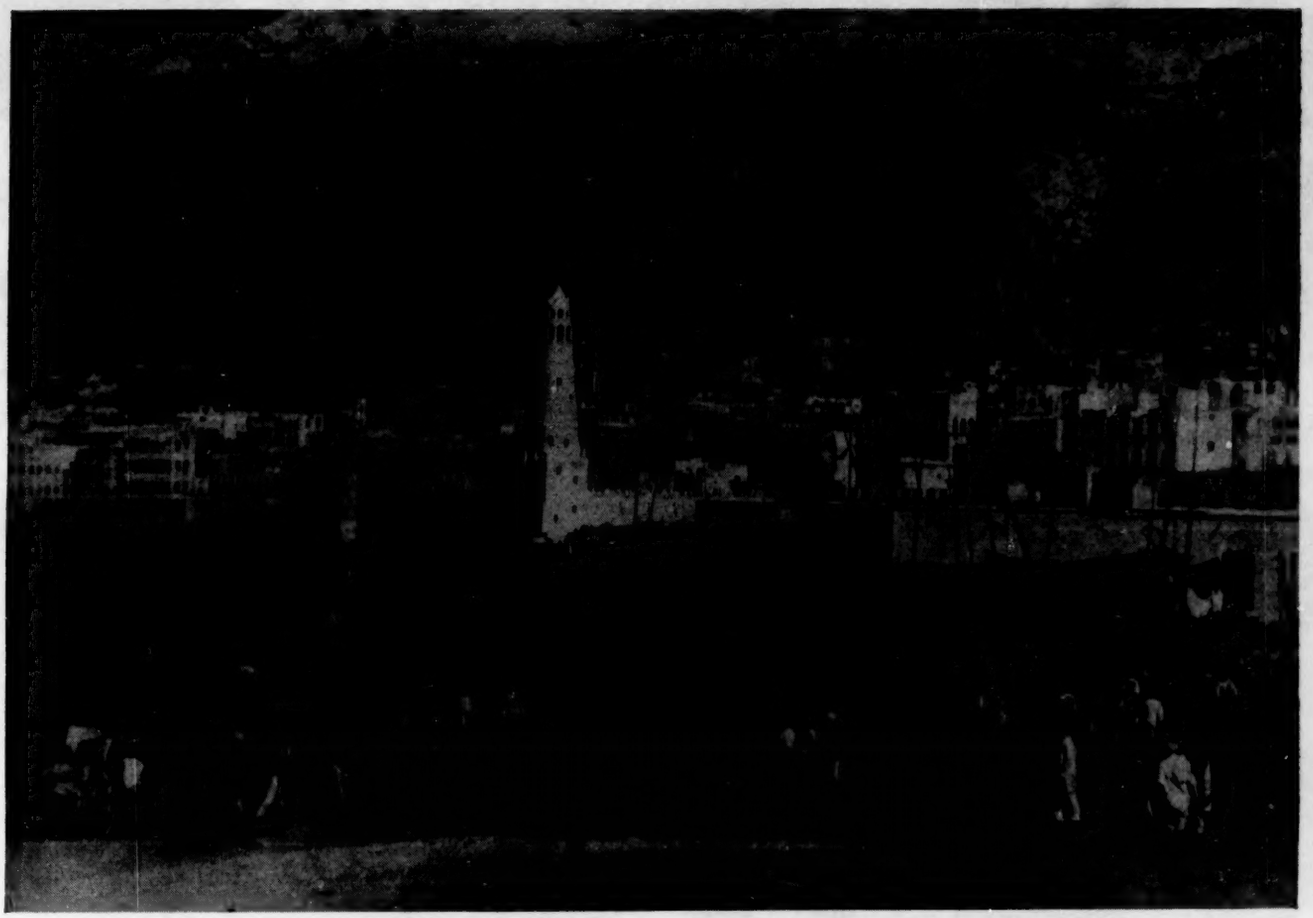
Mutrah Bay north of Muscat, Oman. Natives prefer this small, more open port for their small craft. Here there is the usual covered bazaar and unhygienic fish market on the beach beneath the hot sun.

almost always without even running water, is cool, and well ventilated. He sleeps in the open, whether he be Beduin or Sheikh. He wears his picturesque head-cloth so that he can wrap up his face against severe dust storms, and his head-ropes are to keep his headgear on. He has learned to live properly under the conditions of his country; it would be a good idea to study how he does it, if so be you ever get the opportunity.

On the whole, though trying, the climate is by no means as bad as it is reported to be. Up in the mountains, of course, it is cool enough. The local Beduin have a curious belief that indigo dye will keep them warm. I have seen them coming down from the interior into the roads of Shihr with no clothing other than a brief, black sarong, long matted hair thick with ghee, and black indigo smeared heavily on their lithe and almost fleshless bodies, though they had come straight from the hills.

Politically, the set-up is that in the British areas—now more or less confined to the Aden Protectorate and the Hadhramaut, though there is a Political Agent at Muscat—the place is ruled by its own chiefs as far as all internal affairs go, though sometimes a little advice may be given. The Yemen is independent, and was recently the scene of an outbreak of violence when the ruler was changed. The Imam Yahya, who ruled the Yemen for very many years until recently, was not particularly noted for cooperation. The rest of the territory under consideration—all the Red Sea coasts north of the Yemen, and all the interior—is under the direct control of King Ibn Saud, the mightiest monarch in Arabia. Oman is a separate sultanate; Bahrein is a separate Sheikhdom, claimed by Persia for some reason. Local government is by the Emirs and Sheikhs, who all have bodyguards, and jails.

Now that the age-old seclusion of much of Arabia is becoming a thing of the past, the standard of local government, and services, is improving almost everywhere. But there still are bad spots. On the coast near the Kuria Buria Islands, there are tribes of pirates who are still held in awe by date-laden dhows: in many parts of Oman, the locals would sooner take a pot shot at the stranger than hang out any flags. Policing much of South Arabia was from the air, mainly by the Royal Air Force; when a tribe of Beduin break the raiding rules with persistent carelessness, sometimes they must be bombed. But on the whole there is more peace now than there has been for many years, and the influx of wealth and western



Mukall, port of the Hadhramaut. The main town and chief port is set against a mountain on the south coast. A dozen camel caravan routes radiate into the interor from this important city.

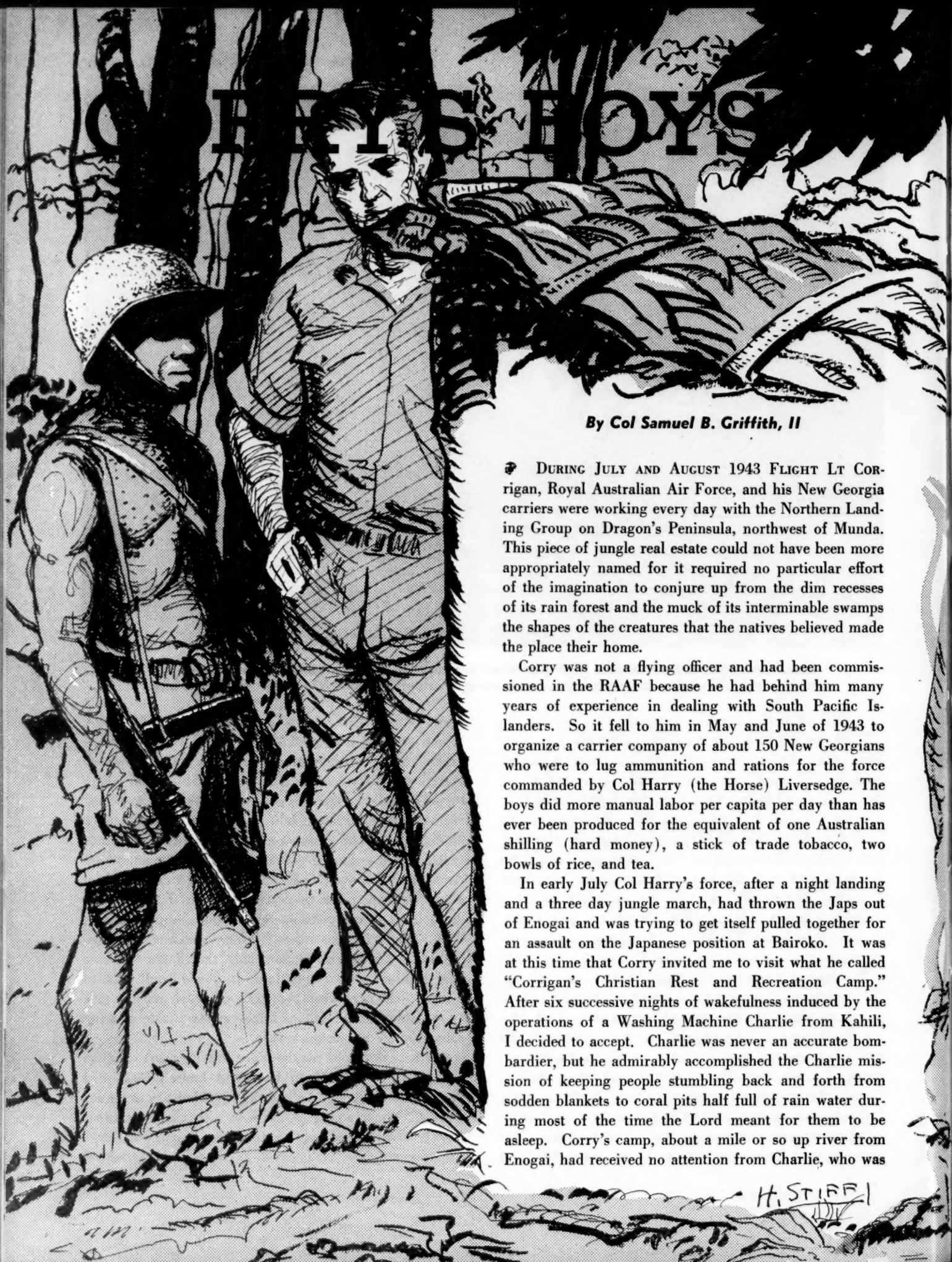
ideas is making for good government.

Don't get the idea that Arab wealth comes only from oil, and is a recent growth. The Arab has been a shrewd business man since long before the *Mayflower* sailed; an Arab who could reckon his family tree only back to William the Conqueror would be rated a fresh upstart. Arabs controlled the trade routes of the world for centuries, and still much of the wealth of the Indies pours into the peninsula just as it did in the Middle Ages. You must remember that the Middle Ages are recent, in much of Arabia; it is no use going there with a mind geared only to the goings-on of Brooklyn or Detroit, and expect to appreciate the outlook of the inhabitants.

The typical Arab has two things which very greatly sustain him, no matter what he might otherwise lack—and these things are his calm philosophical outlook, the growth of much contemplation in an existence very close to a harsh and unforgiving Nature; and his Moslem religion. To him, both these are very real things indeed. He may know little of mass production and his greatest industry may be concerned with the production of some indifferent tobacco or good coffee beans, or queerly flavored honey. He likes to rub some perfume on his forehead, in the evenings, and to waft the fumes of burning incense into his wide nostrils. He eats in silence, crouching and using the right hand only; womenfolk are neither present nor discussed: he is at home on a strip of rough carpet beneath the stars, or upon a camel's back, or seated cross-legged hour after hour in the stern sheets of a dhow. He may have slaves, concubines, vast possessions (some of the wealthiest property-holders in Singapore are Arabs, and in Java); or he may not have a change of indigo. He may trade in pearls or sheep from Berbera, dates from Basra, cotton-goods in the cheap bazaar at the Crater in rainless Aden. He may speak no language the average Westerner understands, though the business man is often at home in four or five difficult Eastern tongues. He may wear a dagger, carry an ancient rifle (not quite so out of date as it may appear), ride a racing camel, fondle his amber rosary.

All these things he may well do; but one thing also you may depend upon. He will comport himself with quiet dignity like a man, and a man he is, and was, and always will be. A man's man, at home in a tough man's country. It is a country, too, where we can learn a lot.

USMC



Corry's Boys

By Col Samuel B. Griffith, II

During July and August 1943 Flight Lt Corrigan, Royal Australian Air Force, and his New Georgia carriers were working every day with the Northern Landing Group on Dragon's Peninsula, northwest of Munda. This piece of jungle real estate could not have been more appropriately named for it required no particular effort of the imagination to conjure up from the dim recesses of its rain forest and the muck of its interminable swamps the shapes of the creatures that the natives believed made the place their home.

Corry was not a flying officer and had been commissioned in the RAAF because he had behind him many years of experience in dealing with South Pacific Islanders. So it fell to him in May and June of 1943 to organize a carrier company of about 150 New Georgians who were to lug ammunition and rations for the force commanded by Col Harry (the Horse) Liversedge. The boys did more manual labor per capita per day than has ever been produced for the equivalent of one Australian shilling (hard money), a stick of trade tobacco, two bowls of rice, and tea.

In early July Col Harry's force, after a night landing and a three day jungle march, had thrown the Japs out of Enogai and was trying to get itself pulled together for an assault on the Japanese position at Bairoko. It was at this time that Corry invited me to visit what he called "Corrigan's Christian Rest and Recreation Camp." After six successive nights of wakefulness induced by the operations of a Washing Machine Charlie from Kahili, I decided to accept. Charlie was never an accurate bombardier, but he admirably accomplished the Charlie mission of keeping people stumbling back and forth from sodden blankets to coral pits half full of rain water during most of the time the Lord meant for them to be asleep. Corry's camp, about a mile or so up river from Enogai, had received no attention from Charlie, who was

apparently unaware of its existence. I badly needed eight uninterrupted hours in the hay and so one afternoon in late July I roused my man of all work, Eddie Wickham, and directed him to paddle over to Corrigan's Camp to find out whether or not there would be fresh fish for dinner that night.

Eddie, a sergeant in the Solomon Islands constablulary, was a fine looking man of about 25. He is a Christian quarter caste, swarthy, rugged, a good jungle scout and an accurate shot. Shortly after we arrived in New Georgia in early July, Eddie had reported to me as a handy man. He had travelled with one of the reconnaissance units sent to New Georgia in April and May and had killed five Japs with the carbine one of the officers of the patrol had given him. (He later ran his score to seven, but he was inclined to deprecate this achievement). "Not very many, sir," he said to me once. "Frankie kill 17." Frankie was a New Georgia head man retained by Corrigan not to carry, but as a major-domo and a jungle scout. With Frankie, Jap-killing was purely a sideline from which he derived much pleasure but no profit. His daily rate of pay was two Australian shillings, two sticks of trade tobacco, a pound of rice and several ounces of tea. And Corry had promised him that when the show was over he would be rewarded with a bolt of cloth to take home to his "Mary." Eddie really knew how to cook rice, an accomplishment which very few Americans possess. Eddie cooked just about the best rice I have ever eaten; when he finished a mess it was beautifully dry, white and flaky. He brewed delicious tea in anything from a tin hat to an empty "C" ration can, and as a laundryman he had few peers. He is now a very fine provider for a Melanesian "Mary."

EDDIE was quite happy at the prospect of getting over to Corrigan's for supper and a quiet night not only because he was as much in need of sleep as everyone else, but because he had not seen his friend for some time. He summoned his right hand man, a boy of about 17 who took care of him in exactly the same way he took care of me, and directed him forwith to cease his labors on the roof of the bomb shelter and to grab his canoe paddle. In about an hour they returned with a note from Corrigan. We were welcome and there would be fish.

I picked up my helmet and pistol, Eddie bundled up the jungle hammock the padre had borrowed from an unobservant quartermaster, and we made off in the direction of the dock. In ten minutes we were up river and had landed on the beach below Corry's camp. Half a dozen canoes were hidden under the mangroves and a few of the boys were idly enjoying the sun and the feel of the warm ankle-deep mud. The path from the beach to the top of the bluff was steep and slick and even the vines that had been strung for hand lines could not prevent considerable stumbling, slipping and [illegible] (moral as well as physical).

Corry's housing development consisted of [illegible] 25 leaf roofed lean-to's, each large enough to hold six or seven men, and though no real estate promoter could with truth have advertised them as cozy or homelike, they were at least dry, and in the jungles of the tropics one can not ask for more. A raised platform served alike as floor and bed, and the leaf roof, about a foot or more thick, shed the rain. The towering trees of the forest hid the camp from the eyes of inquisitive enemy aviators.

THE SHACK OF THE MASTER of all this was no different from the rest except that it was slightly larger. In one end of it there was a portable radio transmitting and receiving set with which Corry tuned into the Coast Watcher circuit, a stack of old Sydney newspapers which he had brought along in lieu of extra shirts, a gallon tin labelled "Pure Alcohol," a pack of dirty cards and a case of grapefruit juice. This was obviously the library, bar, music room and dining room. At the other end of the shack Corrigan's assistant, a Marine sergeant clad in a battered felt hat, a short sleeved shirt and a pair of ragged shorts was sleeping peacefully. Everything was tranquil and secure; the waterproofed shacks with their beds of ferns impressed me as the utmost in luxurious appointments; I was at a loss for words when I thought of the reading material, the pack of cards and the gallon of alcohol. To find so many of the good things of life all gathered together was almost too much. Corry rose, smiling. He was a tallish, lean man, with slightly greying hair whose smile lit in his eyes. The Marine sergeant woke, sat up, adjusted his hat, spoke to me, lay down, and promptly went back to sleep.

"Get up," Corry said. "Get off your duff. It's your night to mix the drinks. I hope everybody in Montana isn't as lazy as you are." The sergeant wearily slid over to the bar end of the shack and began to open cans.

"I have 80 boys carrying stuff up to Shultz today," Corry said. "They took 60 cases of rations and 20 boxes of mortar shell. They have been gone since seven; should be back any time now."

I knew the trail up to Shultz's position. It was terrible going through swamps calf deep, up steep slopes to the tops of razor backed ridges, each of which fell inevitably and precipitately into another swamp. The day I had gone up we passed a column of about 60 boys, each with a case of ammunition, a bag of clothing, a reel of wire, or a box of rations on his shoulder. None of them were big men, but their brown bodies were wiry and their arm, leg and back muscles powerful. They wore gaudy cheap cotton lap-laps, or lava leaves wrapped around the waist. They didn't remind me of the sarong girls of Hollywood. Their broad flattish feet were incredibly tough with the skin perpetually wrinkled because it was

perpetually wet. But none of them had the jungle sores on bodies or feet that the chafing of our clothes and shoes produced on our skins.

The boys hated the jungle as much as did the Marines and GIs for they were not bush people but canoe people whose homes before the coming of the Japanese had been along the shores of coral enclosed lagoons. They had been rounded up for this show by the inexhaustible Kennedy, the coastwatcher at Segi who was the Colonial Office "emperor" of the New Georgia group. (Kennedy had a fabulous reputation as a Jap killer, and the Japanese wanted his head in the worst way. But his "subjects" were the most loyal in the world—as the presence of 150 of them with Corrigan was proof). There was never any question in the minds of the boys about who was going to win the war, and they were not lukewarm in the expression of hatred of the Japs, who had destroyed the only way of life they knew.

The Marine sergeant, after much pouring, tasting, blending and stirring, finally arrived at a concoction that met with his approval. We raised the cups. "Cheers;" sipped slowly, and set them down carefully. As we sipped along, Corry told me that before he had come to the Solomons in the spring of 1943, he had been in New Guinea. In 1940 he had entered the RAAF, and in 1942 had been sent to Moresby to help get an airfield near there in shape. It was at this time that the Japs were pushing over the Owen Stanley range, and things looked their very worst.

BEFORE THE WAR he had been a planter and minor operator in New Guinea. I was very vague on New Guinea and Corry got a piece of paper and pencil and sketched as he talked, marking Port Moresby, Buna, Gona, the Owen Stanley range, Finschafen, Madang, and Wewak. He had been to all these places and many more and knew the area around Madang and Wewak well. Once he had gone several hundred miles up the Sepik River, travelling by steamer, launch and canoe to try to buy for a collector a life-sized ceremonial crocodile carved out of one piece of hard wood. This crocodile, which was 14 feet long, was owned by a village whose inhabitants were reputed to be rather tough customers and though Corry was well treated because he had been there before and because he spoke the language, he was unable to buy the crocodile in spite of an offer of £50 in trade goods.

He could have sold it to the collector, he said, for 10 times that price; but the natives liked their crocodile too much to yield to his blandishments and though he had returned to Madang empty handed, he could never forget the crocodile.

Apropos of the crocodile, Corry said that museum expeditions, collectors and curio hunters had pretty well stripped the South Pacific Islands of the best examples of native arts and crafts, and that as no artisans worthy of the name were to be found among the younger men and women, it was unlikely that much more good work would be produced. As late as the middle 1930s, he told me, it had been possible to pick up exquisite wood carvings, gold and silver filigree, shell work, beads, earrings, canoe paddles ornamented with intricate designs in mother of pearl, and many other fine examples of native craftsmanship. All these skills have either died or will die with the few old artisans who are left.

Corry thought that it was not only activities of professional collectors and the availability of cheap imported gadgets that caused native arts to wither, but also the influence of Evangelical Christianity. The missionaries, he said, always discouraged native artisans from representing their divinities and their myths symbolically in jewelry, in carvings or in inlay work because so much of this, to the western eye, seemed obscene. (Certainly the Solomon Islanders have lost their abilities as craftsmen, whatever the cause. I did not see a single example in the Solomons of more than the most primitive craftsmanship. I saw only one native canoe that had any real inlay work on it and that was not particularly good).

AND SO we talked. Corry told me that most of his carriers were married and all of them were Christians, the majority of the Church of England. There were a few Seventh-Day Adventists. It surprised me to learn that natives of the latter persuasion did not use tobacco, for the Melanesian as a rule will use tobacco in any conceivable form in which it is offered to him. They particularly prefer a black trade tobacco which comes in sticks or twists about four inches long, an inch wide and a quarter inch thick. I felt myself somewhat of an authority on trade tobacco, for in the fall of 1942 I had chewed it on Tulagi and Guadalcanal when the cigarette supply was low. I discovered that night that I was no more able to enjoy it than I had been a year before. This stuff is made either in Richmond or Petersburg, Virginia. The natives love it and the demand was then, and I suppose is now, absolutely unlimited.

Corry said that when the Japanese began moving south in 1942 from New Britain along the Solomon chain the British Colonial officers told the natives to leave their villages and, when the Japanese came in the spring of 1942 to New Georgia, the "canoe" natives immediately "went bush." They took with them into the jungle hills their "Marys," children, pigs, chickens, and what few crude household and garden implements they possessed. They hid their precious canoes in the mangroves that line the inlets and lagoons. Not a single "canoe" native on any island of the New Georgia group remained behind to cooperate with the Japanese, whose reputation had preceded them.

At about half past six Corry held his daily sick call. The afflicted lined up before the lean-to, some 10 of

them shuffling shyly. Three of Corry's most trusted henchmen, Willy Pia, Johnny Tanisapa, and Frankie Talassasa, each equipped with a bottle of pills, placed themselves near Doctor Corrigan. Willie questioned the sufferers and translated into pidgin the saga of human woe poured into his ears. Corry listened attentively to the description of the symptoms, occasionally felt a forehead or poked a belly, then made up his mind and prescribed. "Two out of Johnny's bottle, one out of Frankie's bottle. Next man." A rapid conversation between Willie and the next sufferer ensued and the symptoms were duly described in pidgin. "Three out of your bottle, Willie. Next man."

THE SICK CALL WAS OVER in 10 minutes to the satisfaction of everyone, the caps were screwed back on the bottle, the medicine stowed in Corry's kit and the three dispensers disappeared.

"It is always either dysentery or malaria," Corry said. "I give them a bismuth and paregoric mixture for dysentery and quinine for malaria. They always get better. You can't kill them."

We finished our drink and the meal was brought on. The fish was superb, the rice perfect, and there was plenty of both. We drenched them liberally with soy-sauce, (we had captured half a dozen huge tubs of it) and came back for more. For dessert we had dried apricots and raisins from a jungle ration pack, and the meal was topped off with tea.

"Frankie, Willie, and Johnny are the best boys I have," Corry said. He leaned around the corner of the shack and called to the cook: "Go get Frankie."

"Willie is head man of all the Roviana people. He is well educated. He went to mission school. Frankie is the best scout I have. Most of the boys are timid, but these three who help me run this show are not. When they talk, the boys jump."

Frankie appeared wearing a disreputable red lap-lap around his waist and an American tin hat that completely covered his small head and practically rested on his shoulders. He was about five feet three or four inches tall. He had a fine face, alert eyes, and he bore himself with dignity. Slung over his right shoulder was an Owen submachine gun which Corry had loaned him. With that gun Frankie had killed 17 Japanese. Corry told him to tell me about it.

Frankie was bashful, so we compromised on the story of how he had killed five Japs. He talked in pidgin, distinctly and slowly, and I caught most of it. He had seen a Japanese patrol of five men and he had followed the patrol, stalking it through the jungle for several days. Finally he had caught the five Japs where he wanted them, all of them sitting down on the trail, bunched up, jabbering and arguing while they ate pickled fish. He had set the Owen gun on "automatic" and shot into them. "Kill finish," he said, his eyes lighting up with pleasure.

Darkness does not fall in the jungle, it is dropped. When the sun sets, night begins and millions of insects start to buzz and hum. The mosquitoes began to go into action. Corry, the sergeant from Montana, and I sat on the edge of the floor of the lean-to batting ineffectually at the bugs with one hand and holding our canteen cups with the other.

"About time for Charlie," the sergeant observed.

"Not till 7:30," Corry said. "We have ten minutes yet."

Twelve minutes later the heavy antiaircraft batteries on Rendova suddenly opened up, first with a few sporadic ranging shots and then almost immediately with continuous heavy fire. The bursts blazed in the sky momentarily but it was seconds until the roar of their explosions reached us.

We could tell from the changing pattern of the flashes and the roar of exploding shells that Charlie was coming toward us and that the steel of the big guns was following him.

Corry reached for his tin hat and stood up. He took a leisurely drink and then called: "Condition Red." The Marine sergeant blew three sharp blasts on his whistle. We could hear the boys scrambling for their fox-holes. The shrapnel was screaming in the air above the trees. We put our canteen cups down gingerly just as a high pitched shriek announced the passage of a piece of steel close by. Corry and I dove for the same foxhole at the same time. I made it first and he landed on top of me.

AS SOON as the antiaircraft let up, we could hear Charlie. There was only one of him, a single engined float plane. He usually carried five 100-pound bombs. He passed over us and went in toward the point across the river on a glide run. We got out of our holes, made motions at brushing ourselves off, picked up our canteen cups and sat down again. A few seconds later we counted five successive explosions. We could tell by the sound that they were well off to the east of the point.

"He's getting better," Corry said. "He only missed by about five hundred yards." We could hear Charlie fading off across Kula Gulf bound for his base at Kahili where he would report, as he did every night, that he had sunk an American destroyer.

Some of the boys in the lean-to back of ours were singing Protestant hymns. I knew the tunes but could not make out the words, for they were singing in their own tongue. Eddie Wickam's strong voice dominated as the melancholy tune rose, fell, and died out.

We three sat silently, holding our canteen cups carefully and sipping now and then.

"The boys want to get back to their Marys," Corry said. USMC

Reflection on a U.S. General Staff

By Col Robert Alan, USAF

AH, THE PITY OF IT ALL! NEVER, ONE IS LED TO believe, has the high command of a nation been in such a sorry state. Observe: "The President has no military staff directly responsible to him and independent of the services." "The Joint Chiefs of Staff, being the executive heads of the Army, Navy and Air Force as well as the chief military advisers of the Commander-in-Chief, are sadly handicapped as regards to time and number of duties." "Maybe the Joint Chiefs of Staff could get more done if somebody cracked their heads together." "The Hoover Commission was reported weighing plans to propose a civilian chairman over the Joint Chiefs of Staff to cool off interservice rivalries." "The committee system of command tends to delay, indecision, weak compromises or inaction. This might result in disastrous delay or indecision should the interests of the services diverge during a critical military situation." "The services seem to be about as happy in their unification as a batch of tomcats tied together by their tails and tossed over a clothesline." "The frictions between the Navy and the Air Force are as sharp as before, and they bring about duplication and instances of empire-building that contribute virtually nothing to our military strength and are unduly hard on the taxpayer." "We may have a government by colonels." "The statutory authority of the Secretary of Defense should be materially strengthened." And, someone has caustically observed, we may even come to the sorry time when Mr Eberstadt, one of the primary architects of the National Security Act who has recently reviewed his handiwork and found it good, is unavailable for further review of the National Military Establishment.

All these things and more are feared, alleged, or stated as fixed opinion—some by responsible men of adequate background and objective view, some by men whose only qualification is access to print or microphone.

There is nothing wrong in all this. It is merely the custom in our country, our way of doing things. No better way has yet been devised to insure the greatest good of the greatest number.

With this conglomeration of choice adjectives, fine invective, derisive citizens and experienced organizers, it appears that anyone may get into the act. Congress itself will soon be giving close scrutiny to the Hoover Commission's recommendations for the reorganization of the national security organization, and doubtless the question of a United States General Staff will again be raising its perennial head. Before it does, let us give the general staff problem the objective scrutiny it deserves. A wrong decision in this matter by Congress could be disastrous.

By United States General Staff is meant all that the term has traditionally implied—a huge planning, directing, operating, administrating staff complete in every detail. It would provide the authoritative coordination and unified direction under civilian control necessary for the integration of the services into an efficient team of land, naval and air forces. Among others, its fields of endeavor would encompass strategy, certain phases of administration, logistics in its fullest sense, preparation of the budget, determination of roles, missions and requirements, all types of mobilization planning, the elimination of unnecessary duplication or overlapping and the coordination of military education and training. The General Staff would absorb the functions of the Munitions Board, the Research and Development Board, and the Personnel Policies Board.

The staff would be headed by a Chief of the United States General Staff who would also be Chief of Staff to the President. He would be senior to all other officers in the Armed Services. He would have the power of decision, subject only to the higher authority of the Secretary of Defense and of the President. The Joint Chiefs of Staff would be abolished, as would the executive departments and Secretaries of the Army, Navy, and Air Force. The unmerged Army, Navy, and Air Force would then be placed in a single Department of Defense under a Secretary who had broad, clear power to manage and direct.

The officers of the United States General Staff would be drawn from the three services in equal numbers. They would form a General Staff Corps permanently separate from the officer corps of the services. In addition to manning the General Staff, they would provide the commanders and staffs of all unified commands and joint task forces. They would wear a separate uniform and be on a separate promotion list. To insure constant touch with reality, they would serve tours of duty with the Services at frequent intervals.

Let us now examine the pros and cons of such an organization. Might it be a Frankenstein?

Before proceeding further, it should be mentioned that the staff just described is the extreme proposal for

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Col Robert Alan, USAF command pilot, was graduated from West Point in 1931 and Kelly Field in 1932. He is presently serving with the Joint Strategic Plans Group, Joint Staff.

Does the U. S. need a General Staff? It would provide a completely objective viewpoint. But it would also place too much power in the hands of too few, and might gradually assume control of the higher political activities of the country

a United States General Staff. From it many recoil in horror who merely pose mild objections to the several diluted versions that have been suggested through the years. And so to the problem.

In favor of the General Staff the following arguments have been variously presented:

First, it would provide a completely objective viewpoint at the top where it is badly needed. The country deserves something better than plans based on the desires of all the services. A staff, completely divorced forever from service traditions, vested interests, rivalries and fears would produce the required product.

Second, it would eliminate the delay, compromise and frustrations which even under the urgency of war and the presence of as great and objective a personality as General Marshall, were evident on a number of occasions.

Third, in connection with the emphasis we are placing on economy and the necessity for husbanding our national resources, such a staff would be in a perfect position to effect economies. It would recognize padding quite readily, and quickly sort out the essential from the non-essential.

Fourth, it would raise those who think in terms of the over-all defense of the country to what would clearly be a separate and distinguished position in our armed forces.

AGAINST THE GENERAL STAFF are these arguments:

First, it would place too much power in the hands of too few. The United States General Staff might, as did the Prussian General Staff, gradually assume control of the higher political activity of the country. "The Man on Horseback" might arise. In this connection it will be recalled that many times recently the military has been accused of exercising undue influence in the political realm, with Gen Marshall as Secretary of State, Gen Clay making policy in Europe, and Gen MacArthur formulating it in the Far East.

Furthermore, it is said that the Chief of the General Staff would tend to become the Commander-in-Chief in his own right, that despite the Secretary of Defense and the President, his influence might become decisive and even pave the way to dictatorship. Once again the finger is pointed to the Prussian General Staff of 1860-1918, and particularly to Gen Ludendorff who, in World War I, ran rough-shod over Chancellor Bethmann-Hollweg and Kaiser Wilhelm in the formulation of both military and foreign policy.

Second, it is alleged that the mere creation of the General Staff would not of itself assure efficiency. The task of directing all the joint activities of the three services is too tremendous for one staff and for one man, it is said. Moreover, although the Chief of Staff might act decisively, he might not do so wisely. He, too, even as the Joint Chiefs, must consider and weigh; and in this day of preference for even a bad decision over no decision at all, he might be so terribly wrong as to invite disaster.

Third, it is said that without denuding the three Services, there are not enough jointly trained and highly-skilled officers to form a great joint staff. Whereas its members should be officers of the highest intellectual attainment, superior schooling, and widest experience, the bulk of them would perforce be even as you and I—ordinary officers who might command neither the respect nor the confidence of the services.

No decision about the proposed United States General Staff can be properly made without first understanding the German General Staff. Every discussion of a United States General Staff seems to bring forth reference to the German General Staff, the mere mention of which makes the spines of most Americans tingle with fright. This reaction appears to stem partly from attendance at movies in which the Prussian officer has been represented as a monocled aristocrat of unbearable arrogance, implacable menace and sadistic cruelty rivalled only by Dr Fu Manchu. Surprisingly enough, history reveals that these qualities are in truth representative, and it is of them that many Americans think when they refer to the dangers of the German General Staff. What other Americans fear will be brought out later.

The German General Staff itself had much to recommend it. The living heart of it was the General Staff Corps, consisting in 1914 of about 240 highly skilled, intensively trained officers who had dedicated themselves to acquisition of the highest degree of high-level military skill. Here was no vegetating, no dullness, no stagnating; they studied the past only to learn and apply its lessons. Their view was towards the future, towards the study of the newest weapons and techniques, towards the handling of huge masses of men and their movement and supply. The greatest stress was placed upon initiative, originality and adaptability to circumstance. It is possible that no other military staff ever achieved the high standard of professional excellence attained by these officers of the General Staff Corps. Shortly before

the war of 1870 the French Ambassador to Prussia wrote: "The composition of the Prussian Staff will, in the next war, constitute the most formidable element of superiority in favor of the Prussian army."

The effectiveness of German arms in the period 1860 to 1918 is attributed in no small measure to the superior mastery of the art of war by the General Staff Corps. They are represented as having acquired a tremendous capacity for work, the faculty of concentrated effort over protracted periods, and the ability to deal swiftly and effectively with multitudinous problems. Upon these characteristics of the General Staff Corps rested the magnificent efficiency of the German General Staff of which the Corps, distinguished by the broad purple stripes on its uniform, was the driving force.

No one would object to these professional attainments in an American General Staff Corps. What one would object to is any growth in American officers of the arrogant attitude of Prussian officers, and their almost universal tendency to despise civilians.

Equally objectionable and far more dangerous, however, was the fact that the German General Staff became the guiding spirit and controlling force of its country's foreign policy. It was able to do so as much because of its own excellence, as because of the weakness of Chancellors and Emperors. The last Kaiser, particularly, failed to dominate the General Staff during the first World War. Admittedly it is difficult for any Chancellor or ruler to go contrary to the advice of the General Staff when it claims that only by following its advice can security be assured. But be that as it may, in the First World War Gen Ludendorff was able to dominate German foreign policy, and to lead Germany on to ruinous defeat and revolution which, historians point out, could have been avoided had less militaristic counsels prevailed.

IT IS CLEAR THEN, that these two dangers: the arrogant character of the officers, and the decisive influence of the General Staff on foreign policy, are the ones feared by critics of the German General Staff. Both are real dangers, and it is not surprising that we see them frequently pointed out to American law makers. Note the testimony on the National Security Act of 1947 given before the House of Representatives Committee on Expenditures by Adm Zacharias: "The Joint Staff should be a secretariat, stated in the law, if we are to avoid a very dangerous situation. Unless so specified, the Joint Staff becomes in fact a national General Staff capable of incorporating all the evils of the German system." Fletcher Pratt: "The German General Staff, instead of remaining an organ of the Government, became the government itself for all effective purposes, dragging Germany into war after war. There is a good chance it would set us on the first step towards military dictatorship and becoming an aggressor nation. Maybe it would be different in our case; but that is what all the others have said." Adm Radford "finds no virtue in a military organization such as the German." He would "limit the Joint Chiefs of Staff to a 40 man secretariat without executive power, without authority to function as a military staff, and prohibited from functioning as a National General Staff or engaging in work of an administrative nature that pertains to the armed services."

So much for the German General Staff of the Army. It should not be confused with Hitler's Armed Forces General Staff (OKW) which was the top staff in Germany during World War II, and a joint staff. The General Staff of the Army regarded the OKW as "amateurs serving an amateur." It is interesting to note that Hitler detested the General Staff of the Army and its General Staff Corps. He abused them with such phrases as "a club of intellectuals representing defeatism wrapped up in intellectualism," "professional obstructionists," "burdened by the weight of the military knowledge."

At this point, having briefly set forth the arguments for and against a United States General Staff, and having endeavored to make clear the character of the German General Staff, we are almost in position to evaluate and decide.

HOWEVER, we should first glance objectively at the present National Security Organization. No one denies it has faults. Committee action in that critical focal point of the security structure, the Joint Chiefs of Staff, is deplored and belittled daily. Many of the operations of the military establishment flow from the Chiefs' decisions, and the work of the civilian agencies of the National Security Organization is closely affected by them. For instance, the National Security Resources Board, the Munitions Board, and the Research and Development Board can not lay out their plans effectively without guidance from the Joint Chiefs of Staff. Even the President, the Congress and the National Security Council need the Chiefs' strategic advice. The plans they make affect all the functions of Government, yet it has been pointed out that in the Joint Chiefs of Staff there is inacceptable delay, weak compromise, strong service bias and remoteness from other vital agencies.

The Joint Chiefs, however, stand not alone before the critical onslaught; they are merely the most publicized. As Mr Eberstadt has made clear, "the Munitions Board has not succeeded in establishing a pattern for achieving prompt decision;" "the National Security Council has failed to produce firm top-level national policy;" "the Secretary of Defense, lacking clearly defined authority and adequate staff assistance has been unable to keep the whole involved process in order." These, then, are some of the over-all faults of the present organization

for national security.

All these faults, it is alleged, would be corrected by the United States General Staff. There would be little delay, no indecision. Strategy would be closely meshed with the national economy since the Munitions Board's functions would be assumed by the General Staff. There would be no lack of intimate association between the Research and Development Board and those responsible for strategy, because its functions too would be shouldered by the General Staff. With clear authority in the military realm, the Chief of the General Staff would soon have things running in tip-top shape.

Before rendering decision as to the advisability of such a General Staff there remains only to set forth the virtues of the present system.

FIRST, the system provides a theoretically sound framework within which political, economic and military planning can be effectively interwoven. Second, it keeps too great power out of the hands of any one man short of the President. Third, it provides for unified, one-man command in the field. Fourth, it is working fairly well. When one considers that the Army and Navy have been operating unilaterally for a century and a half, one scarcely expects a great deal in a year and a half. Fifth, praise and extenuation for it as well as criticism of it have been offered. With respect to the Joint Chiefs of Staff it has been said that: "They are a splendid engine of military skill and thinking." "Under the guidance of the Joint Chiefs of Staff, substantial strides have been taken." "Individually, the Joint Chiefs of Staff have been too heavily burdened with departmental obligations to give to their important duties as members of the Joint Chiefs of Staff the time and thought that those duties demand." "During the war the Joint Chiefs of Staff justified itself as an excellent mechanism for strategic planning and for carrying strategic plans into effect." "The responsibilities assigned to the Joint Chiefs of Staff are extraordinarily difficult and complex, even more so in peace than in war. The criteria upon which to form their plans and judgments have been vague and uncertain, the conflicting pressures upon them are heavy." "The Joint Chiefs of Staff has proved its worth and should be continued."

With reference to the other vital organizations of the National Security Establishment equally enheartening statements could be quoted but, for brevity's sake, will be omitted.

Thus are arrived at the points of evaluation.

Returning now to consideration of the arguments advanced for the United States General Staff—objectivity, quick decision, economy, efficiency, distinction—it must be admitted that all are sound. One may be forgiven, however, for wondering whether no decision at all is not better than a hasty decision. At the highest level, is not the essence of judgment a thorough consideration of every view, a patient, thorough appraisal of every facet and possibility, rather than a quick answer? The need for speed in basic matters at the Joint Chiefs of Staff level is not apparent, although the need for rapid decision in the field is admitted by all and has been provided for by the Unified Commands. If we are to fly in the face of experience, to deny that "many heads are better than one," and to prove once again that "all anybody learns from history is that nobody learns from history," then let us continue to press for quick decision in the Joint Chiefs of Staff.

THE POSSIBILITY of ill-considered decision in a General Staff pales into insignificance, however, alongside the danger of abuse of power. Here is the tremendous, overwhelming argument against the General Staff. Despite the President, the Secretary, and the Congress, its potential for evil in the hands of the wrong man would be unlimited. With the entire armed might of the nation at his disposal, he might easily effect a *coup d'etat*, and there would be no substantial counterforce to oppose him. Now, at least, we have no one military man with all the military forces at his command. Any Service commander with foul designs would have two other Services to reckon with. A Secretary of Defense bent on dictatorship would have to suborn all three Services. As long as man's nature lends itself to the lust for and abuse of power, we would be wise to keep the greatest military force in the world out of the hands of those who might—it is remote but it is possible—abuse it to our own undoing.

If we could be sure that the Chief of Staff and the General Staff would always be high-minded, public spirited men of infinite wisdom, resource and tolerance, with no other concern than the good of the nation and an unerring ability to determine exactly of what that good consisted, then the United States General Staff would be the answer to our problem. Since we are assured by the research and development people that such men are not to be expected in the foreseeable future, it would be well to oppose formation of a General Staff.

Is there hope without a United States General Staff? Mr Eberstadt, who appears to be as qualified as anyone and better qualified than most, thinks the existing machinery, with a few minor adjustments, will soon shake down to a smooth-running engine of national security. Yet even if there were little hope of improvement, it appears far wiser that the National Military Establishment proceed in its so-called "inefficient and blundering way of hammering things out by a long process of argument, comprise and inter-service struggle" than to ever commit itself to a United States General Staff of the type outlined herein. USMC

Don't Be a Good Joe

By MSgt C. V. Crumb

INEVITABLY, ON COMING ABOARD AT YOUR NEW STATION, one of your first questions is, "Who's the CO?" Upon being told, your next question will be something like this, "What kind of a man is he?" More and more you find that the answer is something like this, "Oh, he's all right," or "Don't worry, he's a good Joe." Almost immediately you relax. Very infrequently will the answer be, "He's tough," or "Watch out, he's a so and so." However, if the latter be the case you turn to, get your uniforms squared away, learn the post orders, read the bulletin board, learn the post fire bill and attend to all of the other little incidentals that are not too important but must be taken care of if you want to be sure to get off on the right foot at your new station.

A few years ago I spent several very pleasant months at a small post where a young captain was the CO. The captain was six foot two, weighed 190 pounds with all of it in the right places. His size, stature, and appearance were such as to command the immediate attention and the respect of young marines. In other words this officer had the battle half won before it started. The following, however, were a few of his practices:

He could be seen almost any day stopping a private or private first class in the passageway and asking him for a cigarette;

he granted seventy-twos in the Post Exchange unbeknownst, of course, to the first sergeant;

he was almost everywhere out of uniform and his favorite item of uniform clothing was a very non-regulation leather jacket;

and even though he had a fine comfortable office he would much rather hang around the first sergeant's office and swap sea stories with any of the excess staff NCOs who might be hanging around.

You can easily imagine the consequences. The poor first sergeant racked his tormented brain in his unceasing efforts to keep the command on somewhat of an even keel. Here was a young Marine officer who had the mental and physical attributes required in the making of an excellent CO, but for the lack of conscientious effort or proper indoctrination and training (or both) definitely did not exercise said attributes. Upon joining this command I inquired as to the nature of the CO from the driver on the way from the railroad station. This was his answer, "Hell, the Captain, he's a swell Joe; don't worry about him, he don't bother nobody."

Not long ago I terminated a tour of duty in which I worked in the headquarters of a certain large unit. In this unit we had a major, an officer but certainly no gentleman, except, of course, by act of Congress. Much to the credit of the Corps, this officer is the only one of his type that I have met in over a dozen years of service as an officer and enlisted man. When meeting an officer in a passageway and being uncovered, it is, I believe, a well established custom to greet said officer with a "Good morning, sir" or a "Good afternoon, sir," whichever is appropriate. This greeting takes the place of the hand salute. The major of whom I speak would never acknowledge a greeting of this type even to the extent of turning his head and eyes. The news of an incident which I am about to describe made the rounds of every squadroom in the command not once but several times. The major had borrowed a copy of the Navy Regulations and a pencil from the battalion sergeant major. After looking up his reference and while talking to one of his officer assistants, he turned briefly and nonchalantly tossed the Navy Regulations and the pencil back toward the sergeant major and his desk several feet away. The Navy Regulations landed spread-eagled across the desk and the pencil bounced once then hit the deck. The room became deathly quiet as the clerks waited breathlessly for the righteous wrath of their chief to descend upon the perpetrator of such a thoughtless act. Only the ingrained discipline that was second nature to a man who had served for over 20 years without an offense on his record saved the situation from becoming even more unpleasant. The sergeant major gritted his teeth and, with a countenance red with controlled but not concealed anger, stooped to retrieve his pencil. The major walked out jauntily, most assuredly not realizing how severely he had wounded the dignity and prestige of all Marine Corps officers.

AS FAR as I know he was never heard saying "please" or "thank you" to an enlisted man or to an officer junior to himself. On several occasions, I stood for long minutes in front of his desk awaiting recognition after which I intended to conduct a very short piece of business while the major doodled in feigned non-observance of my presence. His job had to do with security and he punished the men of his section severely for breaches of security that he himself flagrantly committed in the presence of them all. His bad manners and completely thoughtless attitude toward enlisted men and junior officers were definitely not those to be employed in avoiding the possibility of being known as a good Joe.

I have another type to discuss. In this same com-

Women Marine Officer Training

THE FIRST CONTINGENT of Women Marine officer candidates will begin a six weeks' training program at the Marine Corps Schools, Quantico, Virginia, on 20 June 1949. Women graduates and undergraduates of the nation's accredited colleges and universities are now being enrolled for the junior and senior course.

Undergraduates will normally enter the junior course following their freshman or sophomore year at school, and the senior course after their junior or senior year. However, during the next two-year period, provisions have been made whereby college juniors and seniors may enter the junior course of the Women Officers Training Class. College graduates may complete both courses in a single summer.

During 1949, each course will be limited to about 50 candidates, the junior course starting 20 June and the senior course on 31 July. In the future the Women Officers Training Class will be the only source of women officers in the Marine Corps. A small percentage of each class will receive regular commissions while others successfully completing their training will become reserve officers.

Women candidates will receive the pay and allowances of a corporal while on active duty in the junior course, and during the senior course are paid as sergeants. Candidates can enlist for officer training when 18 years of age; however, they must have reached their twenty-first birthday before being actually commissioned.

College graduates must have a baccalaureate degree from an accredited college while undergraduates must be regularly enrolled in an accredited school and pursuing a course leading to a baccalaureate degree. They must also be unmarried and citizens of the United States.

Civilian women should apply direct to the Commandant of the Marine Corps by letter for application forms and full particulars concerning their eligibility for Marine Corps Commissions.

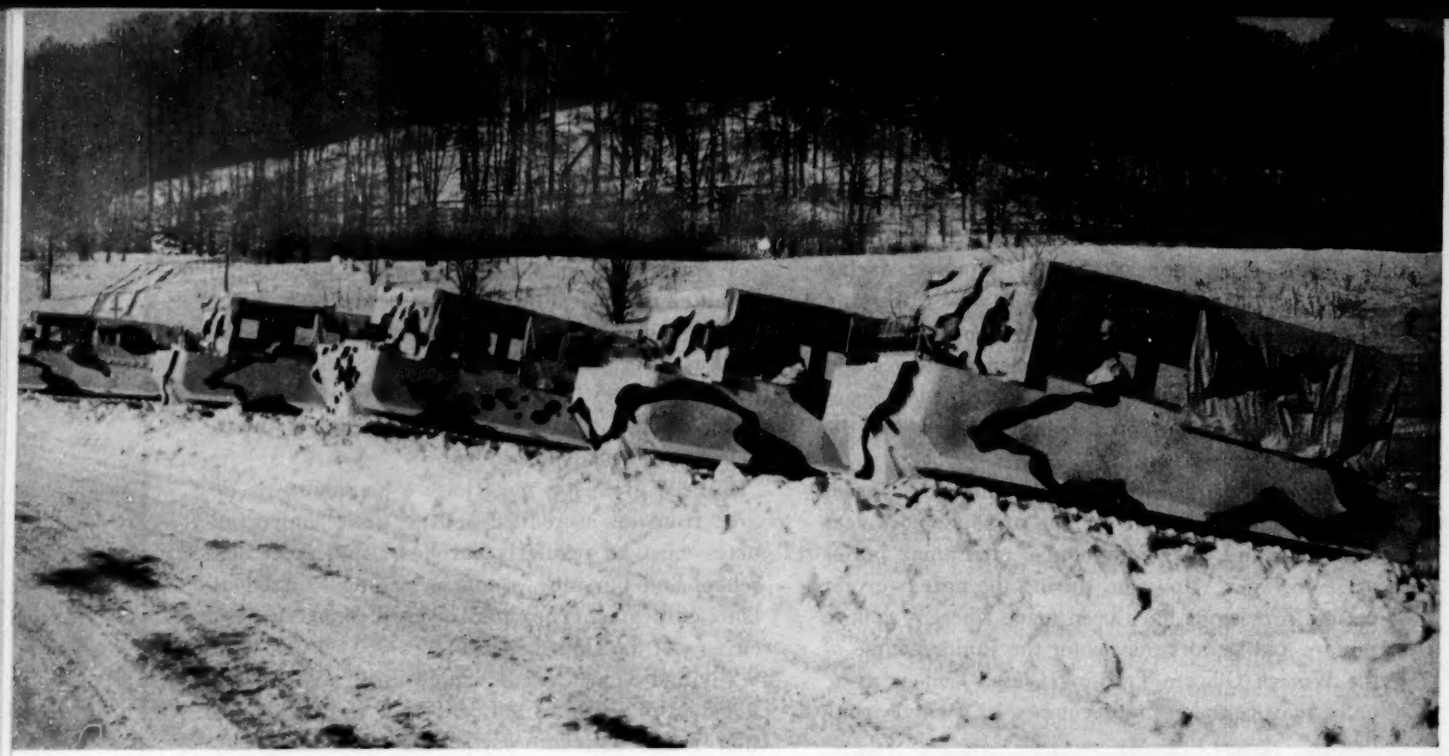
Also eligible to enter Women Officers Training Class are enlisted women of the Marine Corps, enlisted members and former enlisted members of the Marine Corps Women's Reserve who have served on active duty. However, women in this category must be college graduates or pass a college educational equivalent examination to be eligible.

mand with Maj Bad Manners we had another major with whom my duties brought me in contact very frequently, some days as often as a dozen times. At times this major was exasperating. He demanded and received your wholehearted cooperation. When he wanted something done he said "Please" but the intonation and inflection of his voice in making the request caused instant attention. When the job was done he never forgot to say "Thank you" and was then immediately off about his business. He was impeccably neat. In more than 15 months of duty with him I never saw him out of uniform or in a soiled or rumpled uniform. He did not hesitate to reprimand his men or anyone else's men for a breach of military etiquette or for their appearance in his office when he felt that said appearance did not reflect credit upon the Marine Corps. One day I overheard one of my men say, "That Maj Blank, I've been in his office hundreds of times and the one time I go in out of uniform he notices it and calls me on it."

He worked until the work in his office for that day was done and his men did the same, but he was not a clock watcher. In short, this officer worked for the Marine Corps and he expected and demanded those who worked for and with him to do the same. He practiced the art and looked the part of being a gentleman and a Marine officer. I never heard anyone say that he was a good Joe.

My comparison of the three officers, sobered and leveled by the passage of time, forces me to but one conclusion: while it was as pleasant serving with the young amiable captain as it was unpleasant serving with Maj Bad Manners, my conduct and my work while serving with Maj Blank were more of a credit to my unit and to the Marine Corps and that seems to be the ultimate yardstick by which we judge our value as marines.

Too many of our junior officers want to be good Joes. Be a good officer in the sense that you are ever vigilant where the welfare and comfort of your men are concerned. Be thorough when you tackle one of their personal problems and drive through to a complete solution. Be ever careful of your dress and your speech in their presence, for everything that you do or say will be hashed and rehashed in the squadroom. Do your part in making them bring their problems up through the proper channels. Do not be as anxious to be liked as you are to be respected. There are but a chosen few of those who can be completely well liked, well respected and automatically and instantly obeyed by *all* hands. Be the Marine officer that Maj Blank was, and then if you can be as well liked as Capt Easy Going, you will know that you are one of those chosen few. USMC



The Arctic Weasel

By PFC Larry Ashman

WITH ARCTIC WARFARE ATTRACTING MORE AND MORE critical attention, the Marine Corps has been devoting much time to "major" and "minor" cold weather operations designed to give a better insight into the testing of personnel, clothing and equipment under extremes of arctic climes.

Task Forces "Frigid" (Fairbanks, Alaska), "Frost" (Camp Mc Coy, Wisconsin), "Williwaw" (Adak, Alaska), and Operation Frost Bite, were a few of the early attempts to bring about better understanding of *cold* problems. Recently the 8th Marines journeyed to Argentia, Newfoundland, to make further tests in the realm of snow-bound terrain. All of these exercises provided much valuable information for future use.

In carrying out the defined mission of the Marine Corps—as a unit for the design of amphibious techniques and equipment—one of the foremost problems to be confronted will be that of finding adequate equipment which is suitable for specialized amphibious maneuvers, equipment which is light and versatile.

Toward that end, the Marine Corps will make continued studies of varied concepts of equipment and techniques related to this new field of military endeavor, a field prescribed by both news and geo-political analysts as the probable scene of a next major conflict. There is definite need for mobile equipment capable of traversing the variable terrain of the rugged arctic zones. The M-29 Cargo Carrier, more familiarly recognized as the Weasel, is such a piece of equipment.

A tough, sturdy, commando-type vehicle, the Weasel performs effortlessly over ground conditions that would stall other military transportation. The M-29 is too often confused with the M-29-C Cargo Carrier, which was predominantly used by the Marine Corps in the Pacific. The M-29 Weasel was originally designed by the manufacturer for arctic use.[1]

Model M-29 was intended for snowy terrain, while the M-29-C was a development of the M-29 specifically for amphibious warfare, and was widely used during the Southwest Pacific campaigns, as well as on a larger scale during the Normandy invasion, during the operations in the Low Countries, and in the invasion of Germany itself. These two models are not to be confused.

The track-laying conveyance (M-29) saw action in Normandy, Italy, and the Aleutians. On reconnaisance missions, as a troop carrier, as a light truck, and as a tow car ambulance and supply trailers in combat areas, the Weasel's ability to traverse virtually all types of terrain has stamped it as one of the most versatile weapons thus far introduced to war.

[1]The Studebaker Corporation, South Bend, Ind.

Left and above: M-29 was designed primarily for Arctic use. It is capable of traversing the variable terrain of Arctic zones. **Right:** M-29C is development of M-29 and was predominantly used by Marine Corps in Pacific.

The Cargo Carrier proved its value in the Pacific during WW II. Its parent, the original Weasel, was designed for almost opposite climatic conditions. Properly employed, it offers a solution to some of the problems of Arctic warfare

You can easily see constructional differences between the two models of the Weasel simply by studying the photographs. The M-29 has tracks—wider tracks—especially for terrain which it will encounter; it is minus bow and stern cells for amphibious work, and doesn't have the rudder which was assigned to its companion vehicle.

THE M-29 fills the bill for arctic use because it is versatile enough in construction that it can be fitted with bow and stern cells as well as other amphibious equipment when the occasion requires its use as an amphib conveyance. To facilitate that purpose, tapping plates, etc., are provided on the hull.

Like the animal for which it was named, the Weasel can strike stealthily and swiftly over snow, thick mud, swamp lands, or improved highways. Besides its talents in snow and mud, the Weasel has additional attributes that recommend it highly.

The car can break its own trail through underbrush and second-growth timber. A low center of gravity and ribbed tracks make traction possible on abrupt slopes.

Inclines of 45 degrees are readily mastered under full power control. Table 1 shows a few specifications and operating characteristics of the M-29 Weasel under normal conditions.

The pressure exerted on the ground by the Weasel is only about one-fourth that of a fully equipped infantryman. The chief reason for the vehicle's ability to negotiate terrain impassable to conventional wheeled or tracklaying vehicles is the light weight combined with broad tracks, which are rubber-padded.

Vehicles of this nature are only limited in what they can accomplish by the competence of the personnel who handle them. They are not, and never were, designed as cure-alls. A vehicle of the Weasel's nature must be intelligently used in accord with its purposeful design.

One way in which the Marine Corps can utilize the Weasel, is by mechanizing intelligence reconnaisance agencies whose mission requires, or will require, versatility in mobility. The remainder of this article deals with such a unit, as conceived by the author five years back while attached to intelligence as a terrain intelligence specialist.

For the purposes of this treatise, we shall call our hypothetical unit an Arctic Weasel Platoon, a unit entirely new in tactical and organizational concept. The platoon is a result of over four years of research, study and planning. Initiated during the last war, it is pre-

PFC Larry Ashman served with the 11th Marines during the war, tried civilian life for two and a half years, and is now with Public Information, MCS, Quantico.

Weight	4,077 lbs.
Length Overall-w/Pintle Hook & Tow Eye	125¾ in.
Width Overall	65 in.
Height Overall	70⅜ in.
Ground Clearance (Normal)	11 in.
Turning Circle (Hard Surface)	24 ft.
Ground Contact Area (Zero Penetration)	3125 sq. in.
Snow Contact Area (4" Penetration)	3750 sq. in.
Unit Pressure (Zero Penetration)	1.69 lbs./sq. in.
Unit Pressure (5" Penetration)	1.40 lbs./sq. in.
Top Speed on Hard Surface	36.4 m.p.h.
Cruising Range at 5 mpg	175 miles
Gradeability Lowest Gear (Hard Surface)	100%
Gradeability in Snow	Variable

Table I

sented as a unit developed primarily for Marine Corps intelligence agencies.

For the most part, intelligence arteries were badly neglected during World War II. The average regiment employed its intelligence personnel to man forward OPs, furnish security patrols behind the lines, and as mounted messengers to lateral units. Occasionally they were used as special patrols within enemy territory. While these tasks are within their proper scope, to restrict them to these jobs is to forfeit many of their capabilities.

For that reason the Arctic Weasel Platoon is suggested as a remedy for intelligence agencies in arctic zones requiring specialized motivation, personnel, equipment, and training.

The Arctic Weasel Platoon, operating under the direction of the regimental intelligence officer, can be used to spearhead a drive for divisional, regimental, or battalion landings from cargo submarines, or it can be used as an airborne counterpart of pre-invasion reconnaissance.

It can be taken behind enemy lines to report on uninhabited terrain. It can also be used advantageously to speed the general advance, provide regimental commanders with intelligence, and make such reconnaissance as they may require for subordinate thrusts. By speed and surprise in striking, this small unit may often succeed in knocking out delaying positions that would ordinarily stop a heavier force.

In this organization, each squad requires four Weasels. This gives a total of 16 vehicles in the active squads. In the case of platoon headquarters, it is necessary to assign two Weasels, plus one other to be principally employed as a communications conveyance with a TCS radio. The grand total of vehicles as prescribed in the organization of the platoon is 19; any additional cars can be added to cover the various incidents which may arise in the normal course of a mission.

In order to maintain a good command net within the group, one car from each squad should be equipped with a TBX radio in a temporary mount so that it may be removed when circumstances require it.

Panels, both black and white, should be considered a normal parcel of the cars, in addition to infra-red signalling lamps and glasses. Infra-red will be especially useful when it is desired to maintain vigilant radio silence.

In addition to the communications recommended, it is further suggested that two Weasels in each squad be equipped with vehicular machine gun mounts, welded on the starboard side just aft of amidships. One should be for the Browning caliber .30 LMG, and the other for the Browning caliber .50 HMG.

The tripod mount in normal usage for the caliber .30 LMG can easily be strapped on the inner bulkhead of the vehicle with webbed straps. Another ordnance recommendation is the Utility Demolitions Kit, of which one should be required for each squad. Pyrotechnics ought to be carried in the form of at least one Very pistol and assorted flares, plus any other pyro material deemed necessary for the mission.

THOUGH IT IS UNUSUAL, it is noteworthy that the platoon design contains prescription for the inclusion of 60mm mortars; one per squad. The mortar is as versatile as the unit itself, and its inclusion suggests many new possibilities, when the unit is used as an assault group. Naturally, it would be unwise for the unit to overburden itself with such added weight as would detract from its purposeful speed.

It is already evident that the design of this unit allows consideration for almost any eventuality that it might face; at least it will lack none of the mobile versatility of the U.S. Army Intelligence and Reconnaissance Platoon,[2] and, from the stand-point of fire power, it will be far superior.

What's more, it will be able to more adequately cope with situations which the Intelligence and Reconnaissance Platoon could not possibly handle. It is a fast-striking, intelligence-gathering group composed of specially trained men.

Table II is a hypothetical Table of Organization which the Weasel Platoon might follow were it to be a component part of Headquarters and Service Company in an Infantry Regiment. The platoon is part of H & S, but it comes under the direct supervision of the regimental intelligence officer.

[2]Read FM 7-25 Mission and Techniques of the Intelligence and Reconnaissance Platoon Army T/O&E 7-12 Organization and Organized Equipment.

Composed of a total of 59 men, including the platoon commander of either first or second lieutenancy, the unit is highly specialized insofar as the individual men are concerned.

Essentially, it all reverts back to the standard of each man being an infantryman first, regardless of his speciality. In that respect, I shall discuss the proposed training of personnel for such an organization later in this treatise.

Platoon headquarters should be composed of men who are *the* specialists in their respective fields of intelligence endeavor. From time-to-time they should function as instructors for the rest of the unit.

It is no doubt noticeable that the design of the Weasel Platoon is not of the typical *triangular* construction of most service organizations to which we are accustomed. At the same time you will notice that the fire-team structure is still adhered to. That makes for better control of the unit when it is on foot and gives a higher degree of integration.

Too often, when the platoon is situated in arctic terrain on a mission, the platoon headquarters is left stripped of any protection in the form of an out-guard. A mechanized organization needs an out-guard particularly when it is far in advance of its parent group.

It is also true that when crossing great stretches of trackless, snow-bound country, the unit may encounter unexpected obstacles which will require the availability of an extra squad. In essence, the extra squad is really a "trouble-shooting" squad.

It was decided to use this *square* construction also because it was deemed necessary to the best interests of the organization to staff it with enough personnel to give it adequate force, and yet, not enough so as to overburden the organization with superfluous manpower.

NOTHING CONCRETE has been mentioned in regard to the training of such an unusual group of fighting men. It is the intention of the writer to make various suggestions relative to the basic specialties required in the unit, based on World War II experience.

By training the men as a unit, beyond their individual specialties, they will be accustomed to cooperating with others whom they have been working with. It is not only a good idea to use this method from a planning angle, but also a morale factor must be considered. This should, and invariably will, lead to greater efficiency. Later—when and if we are faced with another major conflict, the unit can be split into two units and replacements added to augment experienced hands.

Table II: A hypothetical Table of Organization which the proposed Weasel Platoon might follow.

WEASEL PLATOON
HEADQUARTERS AND SERVICE COMPANY
INFANTRY REGIMENT
FLEET MARINE FORCE

NAVMC-DPP
Marine Corps
T/O

Designation: Weasel Platoon, H&S Company, Infantry Regt., FMF

1	2	3	4	5	
1 UNIT	SSN	OFFICERS	ENLISTED	TOTAL	
ARCTIC WEASEL PLATOON		1	58	59	
Platoon Headquarters		1	6	7	
First Lieutenant/Second Lieutenant (Platoon Commander)	1542	(1)p			
Master Sergeant (Asst. Plat. Comdr.)	812		(1)c		
Staff Sergeant (Int. Chief)	636		(1)c		
Sergeant (Topo. Draftsman)	076		(1)c		
Corporal (Radio Opr., High Speed)	766		(1)c		
Private First Class/Private (Auto-Rifleman	746		(1)b		
Private First Class/Private (Asst. Auto Rifleman; Truck Driver, Lt.	345		(1)*		
4-Squads (each)		0	13	13	
Sergeant (Squad Leader)	745		(1)c		
Corporal (Fireteam Leader)	745		(1)*		
Private First Class/Private (Radio Opr., Low Speed; Driver)	776		(1)a		
Private First Class/Private (Auto-Rifleman)	746		(1)b		
Private First Class/Private (Asst. Auto. Rifleman	746		(1)*		
Private First Class/Private (Rifleman; Driver)	745		(8)*		
TOTAL PLATOON		1	58	59	
Carbine, Cal.30, M1 or M2		0	12	12	
Pistol, Auto., Cal .45, M1911A1		1	0	1	
Rifle, U.S., Cal .30, M1		0	41	41	

c- Armed with carbine
p- Armed with pistol
a- Armed with M1
b- Armed with BAR

NOTES: (1) M/Sergeant to coordinate activities in administration and to handle mortar control.
(2) SSN are primary; all men to be specially trained in all elements of intelligence, reconnaissance, mortars, mechanized patrol, night scouting, and combat work.

ARCTIC WEASEL PLATOON, H&S COMPANY, INFANTRY REGIMENT, FMF.

- Page 1 - (Continued)

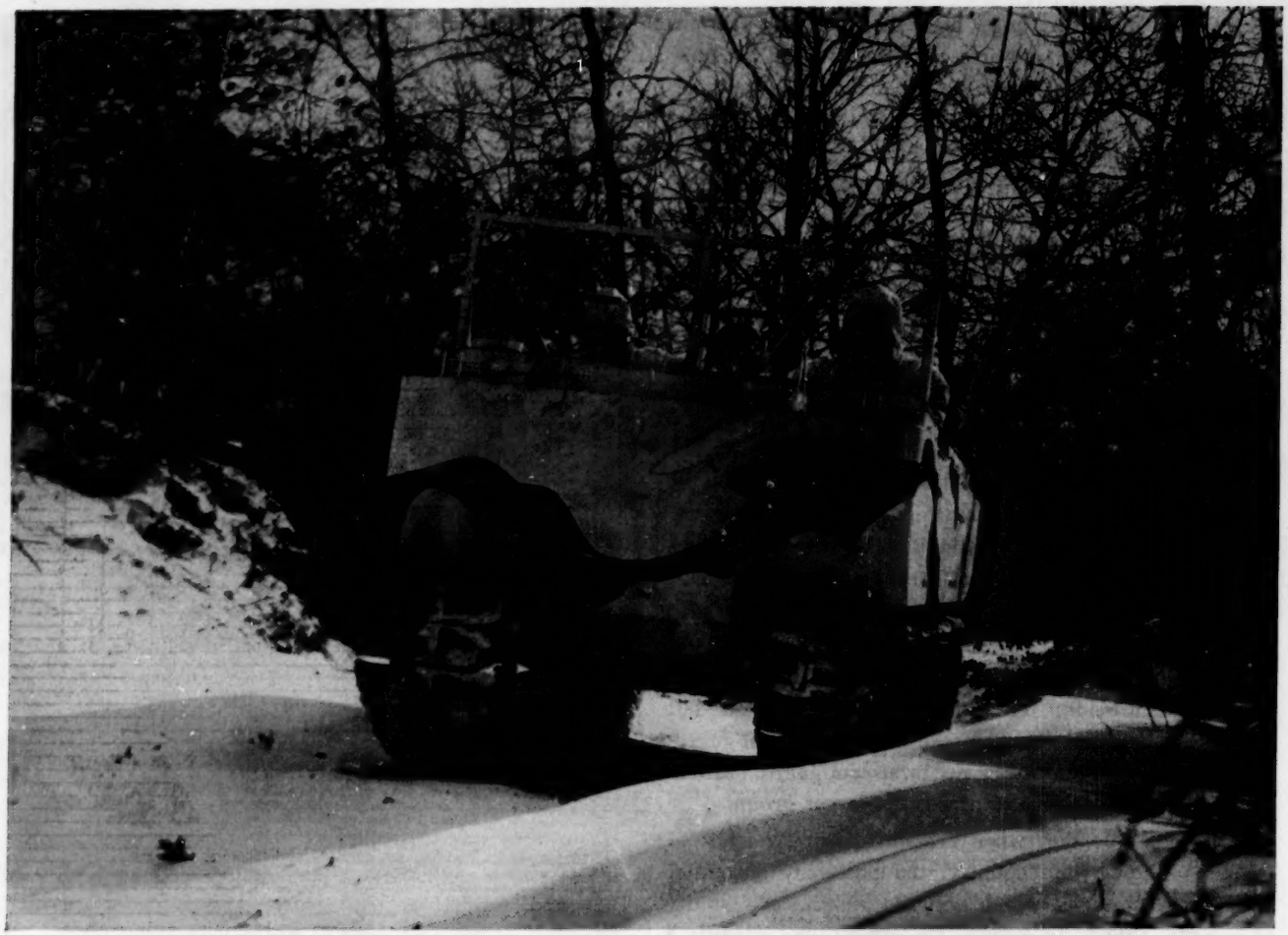
RECAPITULATION OF SSN:

OFFICER	FUNCTIONAL	RANK	
SSN	FIELD	Lt	TOTAL
1542	1	1	1

ENLISTED	FF	PAY GRADE						
SSN		1	2	3	4	5	6&7	TOTAL
076	1				1			1
345	1						1	1
636	1			1				1
745	49				4	4	32	40
746	9						9	9
766	1					1		1
776	4						4	4
812	1	1						1
TOTAL		1		1	5	5	46	58

ARCTIC WEASEL PLATOON, H&S COMPANY, INFANTRY REGIMENT, FMF.

- Page 2 -



The Weasel is equipped with a demountable top and is camouflaged black and white for missions in snow countries. Pressure exerted on ground by Weasel is one-fourth that of equipped infantryman.

Each man should be a specialist in one of the following fields of combat and terrain intelligence:

Aerial Photo Interpretation
Map Reading and Compass work
Elementary Communications Procedure
Scouting & Patrolling (Day & Night)
Demolitions
Camouflage (Normal & Arctic)
Hydrography
First Aid & Field Hygiene (Arctic)
Judo & Knife Fighting
Observation Techniques
Operation of the Weasel
Operation of Auto-Weapons
Operation of the 60mm Mortar
Weather Reporting
Living in a Cold Climate

While it is granted that it is well nigh impossible for a man to be expert in all of the subjects mentioned, it is possible for the men as a whole to be familiar with the generalities of the material.

It will be necessary for the platoon commander to handle the majority of the training exercises for the unit. It is an excellent idea to hold regular briefings for the entire group, informing them of the purpose and intentions behind a particular maneuver, or what they are expected to accomplish on a specific mission.

In running field problems, the unit should be taken out in the field for extended periods such as one or two weeks, during which they will live in the field and view their problems as field problems, not as barrack to "boondock" affairs. Well in advance of the problem, both the platoon commander and his assistant, should go out in the field and set up various pitfalls such as bunkers, ambushes, enemy CPs, to be attacked or reconnoitered by day and by night.

All of this may sound somewhat idealistic to the experienced infantry commander, but it should be remembered that an ounce of preparation is well worth a pound of solution. USMC

Looking at Origins

continued from the back cover

word *ordo* which gives us our modern English *order, ordain,* and even *ordinary.*

Cannon may be traced to *cannone* in Italian, a "great tube," and back finally to the Latin *canna,* a reed. *Weapon,* usually found in Marine parlance in a combination form such as "automatic weapons" or "heavy weapons," is the first word we have encountered which is strictly of Anglo-Saxon birthright. The Saxon *waepan* was a sword or an axe, and stemmed from *waepmann,* or "grown man," the idea probably being that only adults toted spears and swords.

Rockets, the offensive sensation of World War II, have also been spoken of for many centuries, but not always as weapons. The ancestor of our word *rocket,* the Italian *rocchetto,* had two meanings. It could either be a "bobbin to winde silke upon" or a "squib of wilde fier" (a kind of firework). The first rockets were apparently shaped like a silk-bobbin or distaff, and must have been quite a far cry from the deadly missiles that methodically unracked themselves with swishing thunder on the hapless Japanese in 1944 and 1945.

The *grenade* may also once have been a kind of firework. As a French word, *grenade* initially meant either the fruit, pomegranate, or a "ball of wild fire." The term entered France from Spain, the Spanish word *granado,* or "apple full of seeds," being a Latin derivative. Grenadiers were at first specialists who carried and threw the pomegranate-shaped firebombs. Later, a grenadier might have been a member of a particular regiment or corps, noted for an especially flamboyant uniform. Today's grenade, the Frag MkIIA3, hardly resembles a pomegranate, but it still well packed with the jagged metal seeds of death.

Bomb has been said to have an onomatopoetic origin —that is, it is imitative of the sound it makes. Originally it was a type of shell fired from a cannon. In its earliest form, in Latin *bombus* meant a drumming, humming noise; in Spanish, it became *bomba,* a hollow, booming sound. Cognate forms are the Dutch *bommen* and our modern *boom.*

The etymologies of the titles of the various ranks in the service are interesting also. *Private* dates back to the Latin *priuus,* meaning "sundered from the rest, a stand-out." *Lieutenant,* as now seen in English, is the remnant of an ancient legal term, *locum tenens,* meaning a "deputy," or "one who holds another's place." The rapid turnover in modern warfare among first and second lieutenants is an indication that the antique meaning might still be in effect. *Sergeant* and *serf* originated from the same Latin word, *seruus,* or slave. The later Latin *seruientum,* or officer, was corrupted in the French to *sergant,* and finally entered English in the Middle Ages, at which time the sergeant was an officer commanding the men-at-arms under the lordly knight. *Major* was a title of nobility, derived from *magnus,* and meant "the great." *Colonel* came into English from the Italian *colonello,* the title of the officer who, because of his bravery and leadership qualities, was selected to lead the company at the very point of the regiment making an attack. *Colonello* in turn came from the Latin *columna,* a file of marching soldiers. *General* is a condensed form of *generalissimo,* or supreme commander, another Renaissance infiltration into English from the Italian. *Marshal,* now the highest military rank in some armies, was incredibly enough once the lowest. Literally "master of the horse," it came from the Old High German word *maraschal,* or horse-groom—the field marshal may thus trace his lineal etymological descent directly back to the stables of the Dark Ages.

The literary device of antonomasia, where a well-known proper name is substituted for a common appellative, as in calling a strong man a "Hercules," or a luscious brunette a "Hedy Lamarr," also crops up occasionally in the military. We may call a rigid disciplinarian a "martinet," not realizing our indirect tribute to Louis XIV and his acute drillmaster, Martinet. Similarly, we might call one of our comrades "chauvinistic" if he exhibited exaggerated patriotism to an uncalled-for extent. Here, we should be commemorating the name of Napoleon's Sgt Nicolas Chauvin, whose demonstrative flag-waving was a joke throughout the army of France.

Gen Henry Shrapnel (1761-1842) of the British Army has also contributed his name to the common military language, and it is possible that soldiers of the future may talk about a "Patton breakthrough" or a "Dunkerque retreat" or a "Stalingrad defense" until these phrases, too, truncated and abridged, perhaps corrupted for the sake of brevity, have become as commonplace in fox hole dialect as *doughfoot, banzai, brasshat,* or *typewriter commando.*

JMP

Passing in Review

BOOKS OF INTEREST TO MARINE READERS

Eccentric Force . . .

BOMBING AND STRATEGY, The Fallacy of Total War—Adm Sir Gerald Dickens, R.N. 87 pages. London: Low, Marston & Co. 7/6d.

The last World War has caused the appearance of a multitude of books purporting to examine the strategies of the opposing nations. Some of them, glibly hailing the recent headlines, make large and glowing claims for the new weapons of war. For those who enjoy the press agents' approach to military analysis, this book is not recommended. It sticks to the facts and to logical deduction from those facts. It will be small comfort for those who claim the disappearance of accepted principles to see their illogic so convincingly described.

Sir Gerald Dickens, a grandson of the great novelist, Charles Dickens, has a prose style which is not as pleasing as that of his grandfather. However, his knowledge of the problem and the logic of his reasoning enable him to make a convincing demonstration of the fallacy of the attack on non-military targets. Having been the naval member of the Imperial Defense College when the idea was first forced into acceptance, he is well acquainted with the arguments in favor of attempting to win a cheap and quick war by an attack on the non-military targets in the enemy's homeland, with the as yet unfulfilled hope that the hostile armed forces will "wither on the vine." His wide experience, which included three years as Director of British Naval Intelligence before the war and numerous assignments during the war, including one as Principal Liaison Officer, Allied Navies, provides a solid basis for an analysis of Britain's wartime strategy.

He brings out clearly the recurring arguments, as old certainly as the cross-bow, between the technical enthusiast and the true military strategist. He shows how the enthusiastic partisans of a new highly technical weapon caused a reorganization of England's forces which was well-nigh disastrous. He traces this effect, from the forcing of an inadequate air arm upon the Royal Navy, to the development of an Air Force that was so unbalanced toward heavy bombers that England's prime security needs were disregarded. He believes that so many need not have owed so much to so few if a wiser policy had provided more of the fighters needed first, and fewer of the heavy bombers needed last, if at all.

His analysis of the security needs of a maritime power such as Britain's are most interesting to a maritime power such as ourselves. For we, as well as Britain, cannot manufacture the tools of war, nor can we support our allies, nor indeed can we ever come to grips with our enemies unless we have command of the seas. As Dickens clearly shows the first requirement of any maritime power is not mass armies, nor is it huge immovable Air Forces, but rather it is the necessary means of sea-power to keep open its sea communications. The means include all the necessary weapons of modern war, not least of which is the aircraft, manned by crews trained in the naval techniques. Without these means maritime powers can not raise, support, nor move their other forces, nor can they effectively interfere with the actions of an enemy beyond the seas.

Marines will be interested to read Dickens' strictures against Britain's failure to develop amphibious troops and their technique. This, even more than the lack of aircraft carriers, was the cause of the loss of Norway to the Germans. As he points out later in his book, it was this contribution to the art of war by the U. S. Marines which was a prerequisite to the success of the naval campaign of the Pacific.

Dickens continually relates the concept of national strategy for a maritime power to the accepted principles of war, showing how the appearance of a new machine has not altered the penalties paid for disregard of basic principles. Nor, any more than the appearance of an electronic calculator has altered the principles of mathematics, have the principles themselves been changed.

With this as his underlying theme, he points out that the use of heavy bombers against targets remote from a direct influence upon the operations was an eccentric use of force—eccentric in the sense that the effort could not converge upon the target of the other two forces of the land and the sea. Thus there existed a dual objective. On the one hand there was the objective of the hostile armed forces, on which the efforts of the sea and land forces were concentrated. On the other hand, there were the non-military targets of cities and industries upon which the major portion of the efforts of the air forces were expended. The history of the war quite clearly shows that this expenditure of air effort did not result in a concentration of all forces against the targets whose

defeat resulted in victory.

The author has considerable to say concerning the effects upon national policy of widespread bombing of non-military targets. The atom bomb too, is discussed from both its military and moral aspects. The author clearly indicates his conviction that although military men may wish to think in a moral vacuum, governments, and their peoples cannot, and that for attainment of the object of war, a more perfect peace, moral considerations take precedence.

His analysis of the probable military effect of future use of the atom bomb is most interestingly developed. He would probably have carried it even further if he had known that the U. S. Strategic Bombing Survey shows that the air forces dropped the equivalent of 676 atom bombs on Germany, and for the last six months of the war, they were dropped at the rate of 50 per month. As Dickens points out this unprecedented destruction of non-military targets had at best a contributory effect in winning the war, and certainly has been a burden upon our tax payers in achieving a more perfect peace.

It is not a comforting thought that Dickens' book is a powerful indictment of our manner of conducting the last war. However, anyone who professes himself to be a student of war can gain profit from reading this book and after reading, doing a little honest thinking.

SRS

Pips on a Screen . . .

RADAR PRIMER—Comdr J. L. Hornung, USNR. 218 pages, illustrated, review questions, and bibliography. New York: McGraw-Hill Book Company, Inc. $2.80.

Radar has long been cloaked with mystery in the minds of most Marine officers who bear SSNs other than 0115. The increasing application of radar and associated microwave techniques in ground force as well as aviation operations tends to make familiarity with the basic principles of radar mandatory. *Radar Primer*, by Comdr L. J. Hornung, USNR, meets the need for a beginner's text on the fundamental aspects of radar.

The first half of *Radar Primer*, easily the most significant portion of the work, is devoted to radar as such. The nature of the propagation and reflection of radio waves is a logical point of departure. The long waves, in the vicinity of 300 meters, used in standard radio broadcasting, are contrasted with very short microwaves, boasting a wave-length of as little as three centimeters, or a shade over an inch. The application of microwaves reduces the physical characteristics of the radar equipment to the realm of practicality, but at the same time imposes certain restrictions on performance due to "line-of-sight" characteristics of microwaves.

Comdr Hornung explains the *pulse* nature of radar transmissions, one short burst of microwave energy sent out at the speed of light, the echo returning from the

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target prior to transmission of the next pulse. Range to the target is derived from measurement of the time interval between transmission and reception of a single pulse. This infinitesimal lapse of time is measured electronically in terms of *micro-seconds*, each being equal to one-millionth part of a second, yielding range accuracy within a matter of a few yards.

The author explains the function of antennae for various radar types, and the beams resulting from focus of energy by parabolic reflectors, comparable to the beam of an auto headlight. Wide beams are used for search purposes, narrow beams for greater discrimination in terms of range and bearing to the target.

The *cathode-ray tube* displays visually the various types of data measured by the radar. Comdr Hornung describes the cathode ray as a spray of controlled electrons which "paint a picture" on the face of the tube, enabling the operator to determine the type of targe, its distance, bearing, direction and speed of travel, etc.

Basic components of a radar set are analyzed to show the function of each, together with the interrelation among all components.

The latter half of *Radar Primer* discusses applications of microwave and pulse techniques associated more or less with radar, including *GCA* for blind landing of aircraft, altimeters, *loran* (or long range navigation by radio pulse), point-to-point communication, *sonar* (or sound pulses for underwater detection), and television. The book closes with a brief history of radar development, featuring Marconi's 1922 analysis of radar principles, essentially as they are known today.

The reader will not be hard pressed to make a distinction between the first and second halves of *Radar Primer*, as pointed out above. The first portion gives the reader a clear, concise understanding of radar systems. Radar theory and functions are supported by numerous analogies drawn from common knowledge, thus contributing to easy grasp of a highly technical subject. Illustrations, profuse, pertinent and revealing, clarify the text in this portion of the book. The author has exercised extreme care to avoid the use of technical terms until after they have been explained in simple language.

In contrast to the first half of *Radar Primer*, the reader will find in the latter portion a more casual approach to the treatment of associated microwave and pulse applications, as opposed to radar itself. The impression arises that the author tired of his earlier painstaking thoroughness.

During the war, Comdr Hornung served as officer in charge of the Naval Training School (Radar) at Massachusetts Institute of Technology. At present he is supervisor of radio-electronics at Walter Hervey Junior College, New York City.

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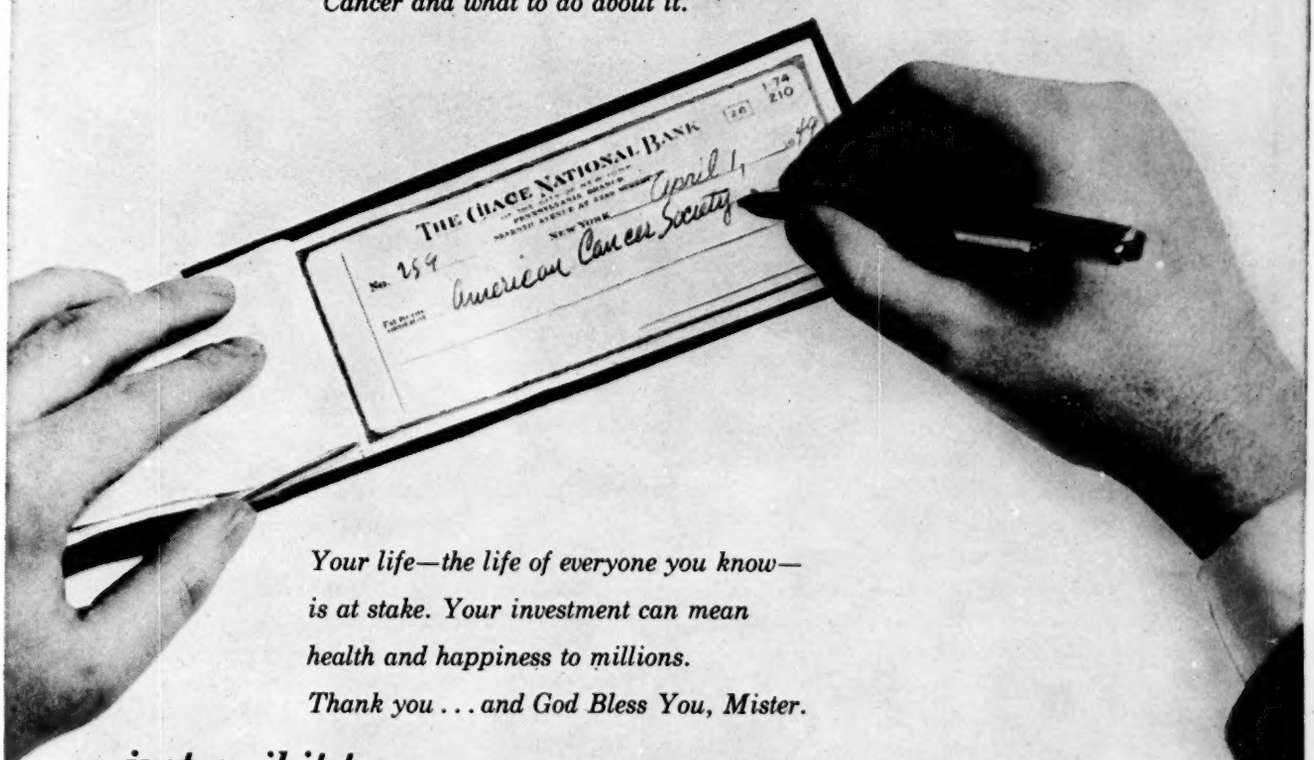

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Looking at Origins

THE MARINE VOCABULARY IS A HIGHLY COLORful one, compounded, as it is, both of salty, swaggering, nautical expressions and traditional terminology borrowed from the dusty rank and file of our land-going allies, the army. From time to time, certain more scholarly marines have looked backward into the past in an attempt to uncover the origins of the service language idioms, and many interesting word-relationships have been brought to light.

Most marines are acquainted with the origin of *Leatherneck, tell it to the Marines,* and *scuttlebutt,* but how many of us can trace the beginnings of such everyday service expressions as *reveille, sergeant, battalion,* hand *grenade,* or *recruit?* It is amazing to discover that some of them, in the long centuries that have passed, have completely reversed their original meanings—that at one time, for example, *sergeant* meant *officer,* and *corporal* meant *captain.*

Rifle has a rather frank, above-board etymology. Originally it was *rifled gun,* a phrase evolved from the Middle English verb *rifle,* which meant "to groove." *Rifle* as a verb entered English from the old French tongue, where it meant "to scratch" or "graze;" and it may be traced to the Swedish word *reffla,* meaning a groove. Apparently, it was used initially by the Vikings who invaded Europe in the 9th and 10th centuries. "Gun" has a longer and a more startling history.

In 1330, during an obscure European war, a missile-throwing machine bearing the facetious name of "Gunilda" was used to besiege a city. The city is now nameless, but Gunilda has left her impact on the modern English language. The Norsemen who operated Gunilda had followed a time-honored practice among warriors in naming their engine after a girl at home.

As "gonne" for short, the word came to England along with the returning veterans of the Hundred Years' War. "Gonne" meant any large projectile-hurling weapon of war, and we find Chaucer using it in his description of the great sea battle of Actium, fought between Mark Antony and Octavius in the Mediterranean thirteen centuries earlier:

"With grisly soun out goth the grete gonne
And Heterly they hurtlen al at ones." [1]
"With grisly sound, out roar the great guns,
And fiercely they (the ships) dash together all at once."

Hundreds of years had to pass before men could consider anything small enough to be fired from the shoulder a "gun." *Artillery* came into English through the French, where as *artillerie* it meant all types of equipment of war and machines of war, even including crossbows. Geoffrey of Villehardouin in 1203 A.D. mentions this *artillerie* in his chronicle of the amphibious assault on Constantinople during the Fourth Crusade:

"Then might you have seen the artillerie shooting from the ships and transports, and the crossbow bolts flying . . . and the ladders on the ships coming so near that in many places swords and lances crossed; and the tumult and noise were so great that it seemed as if the very earth and sea were melting together." [2]

Tracing the word back to the Latin, we discover it comes from *artillator,* "maker of machines," the root of which was *ars,* or art. Those marines who claim that artillery is a fine art would seem here to have an etymological basis to stand on.

An offshoot from artillery is the development of the word *ordnance,* now an all-inclusive term which takes in all artillery, mounts, carriages, ammunition, small arms, machinery, and material for repairing the weapons. Initially, "ordnance" was a very specialized type of siege artillery, a gun of great size with a bore of impressive diameter, as witness Shakespeare (Henry V, III, Pro., 26):

"Behold the ordnance of their carriage,
With fatal mouths gaping on girded Harfleur."

In Latin, we find *ordnance* rooted in the same

continued on page 50

[1] Liberally translated from the *Legend of Good Women,* 11, 637-8:

[2] Villehardouin and Joinville, *Memoirs of the Crusades,* p. 42.